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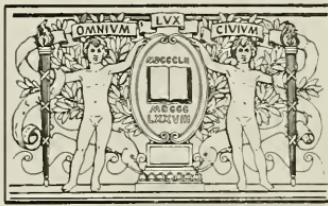
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BOSTON PARKS & RECREATION

KEVIN H. WHITE, MAYOR

Alan M. Austin, Commissioner



BOSTON'S CEMETERIES



CITY OF BOSTON
PARKS AND RECREATION DEPARTMENT
ONE CITY HALL SQUARE
BOSTON, MASS. 02201

KEVIN H. WHITE
Mayor

A GENERAL STUDY OF CEMETERIES
AND RELATED SERVICES IN THE CITY OF BOSTON

PLANNING UNIT

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GLOSSARY OF TERMS

1. Grave: A 3' by 10' area in which a burial takes place; will usually accomodate 2 bodies.
2. Lot: A multiple grave site, usually of 2 or more graves; usually will accomodate 4 or more bodies.
3. Active Cemetery: A cemetery in which burials are taking place on a continuing basis.
4. Inactive Cemetery: A cemetery in which all available burial spaces have been used; no longer buries on a continuing bases; occasional burials are still accepted.
5. Historical Cemetery: A cemetery classified by the Parks & Recreation Dept. as being of historical interest, due to the date of its origin or the persons buried there; A cemetery no longer in active use. See Inactive Cemetery.
6. First Burial: The original burial taking place in a grave or lot. As used in the study, determines the amount of land available in a cemetery.
7. Second Burial: Additional burial taking place in a grave or lot with a capacity for 2 or more bodies. As used in the study, calculates the longevity of a cemetery.
8. Perpetual Care: Continuing maintenance of gravesite for an extended period of time.
9. Opening : Term used for physical removal of earth from gravesite; physical preparation of gravesite for burial.

10. Interment : Physical burial of the remains, often including gravesite ceremony. In common usage, term is often interchanged with "opening" or "burial".
11. Indigent Burial : As specified in state law, burial for people without means to purchase grave or without family to assume burial expences.
12. Cemetery Deed : Legal entitle to the right of buried in a grave or lot parcel; does not include ownership of land.
13. Liner : Prefabricated cement partitions used to support earthen grave walls; also acts as a preservator of integrity of coffin.
14. Foundation : Cement block on which stome monker is placed.
15. Roving Crew : Maintenance crew which operates on a rotational basis in inactive cemeteries; supplements permanent workforce in active cemeteries.
16. Cemetery Funds : Money, primarily derived from sale of lots, graves and liners, as well as interest revenues from investments. Provides for major improvement to land.
17. Enterprise Fund : Operational Cover unit for Cemetery, Sewere & Water Funds. See Cemetery Fund.
18. Perpetual Care Fund : Money derived from perpetual care revenue, including interest on investments from stocks and bonds. Provides for purchase of equipment and payment of personnel for maintenance.
19. Cremation : Method of preparation for burial which results in consumption of the body by fire.

20. Columbarium: Building used as final resting place for remains of cremation.
21. Developed : Cemetery land which is prepared for subdivision into Land graves and lots.
22. Undeveloped: Cemetery land which awaits preparation.
Land

INTRODUCTION

Urban cemeteries are public facilities, often overlooked and ignored, but necessary for the social health and well-being of the community. Their role is that of a link between past and present, of caretaker for those citizens who have died, and as W. Lloyd Warner puts it, "the collective representations that reflect and express many of the community's basic beliefs and values about what kind of society it is."¹ However, if cemeteries reflect the fatalistic beliefs and values of society, they must also operate within the framework of current mores and attitudes. And in the case of the late twentieth century America, these attitudes amount to a celebration of youth and living, and relegation of old age, sickness and death to a place outside the mainstream of public life. Consequently, this places the urban cemetery in a paradoxical situation - it is a good thing in terms of its function, which is disposal of the dead, but a bad thing in that its very presence is a refutation of the glorified American dream - eternal youth and well-being.

In the past, the only way to deal with this conflict has been to remove urban cemeteries as much as possible from the popular eye and mind. In many cities the public cemetery (or all cemeteries for that matter) are located outside the boundaries of the city proper,² thus physically establishing the "social boundaries of the sacred dead and the secular world of the profane living."³ Again, this physical segregation of the living from the dead has also led to an intellectual separation, reinforcing the idea that death and those places that deal with death are things which should not be acknowledged until absolutely necessary.

These intellectual and attitudinal constraints are of great significance to

the continued existence and operation of public cemeteries. Public cemeteries are a form of governmental service, much as any other service, such as fire protection or street lighting, and like these services should be accurately planned for. Yet because of the public aversion to anything related to death, they are left to grow and operate undirected. This leads eventually to critical problems for public cemeteries, such as land and funding shortages, which could have been avoided had comprehensive planning taken place.

The City of Boston's public cemeteries are existing under the above described conditions. Boston has three active cemeteries and sixteen inactive or historical cemeteries operated under the jurisdiction of the City's Parks and Recreation Department.⁴ Understandably these cemeteries have been ignored both internally i.e. within the department, and externally by the public, until something occurs to direct attention to them, usually negative publicity when stones are overturned or maintenance is not kept at a constant level. But the isolation of the cemeteries also manifests itself in a lack of a comprehensive plan for the cemeteries in total and lack of more specialized plans for the three active cemeteries. Both of these factors have led to the current problems facing Boston's municipal cemeteries: 1) Shortage of available land, in all three major cemeteries and no alternative plans for the future development or acquisition of additional land; 2) Declining revenues and rising costs which threaten to eat into the main supply of money supporting the City's cemeteries. Consequently this study was conducted by the Boston Parks and Recreation Department in order to address the above problems.

This Cemetery Study has attempted to accomplish three main objectives:

1. To create an awareness of municipal cemeteries in Boston.

Tucked away in three suburban neighborhoods of Boston, its three active cemeteries, Mt. Hope, Fairview and Evergreen exist for the most part out of

the public's view and out of the view of the City Administration. If this study achieves anything, it should at least create a cognizance of the importance of the function of the municipal cemeteries, in their role as providers of city services, and through this, should encourage a greater integration of the Cemetery Division with the rest of the Parks and Recreation Department. This will afford us a broader base to work upon in developing policies for the cemeteries.

2. To provide data necessary towards the development of comprehensive plans for the cemeteries.

Prior to now, the only information pertaining to the cemeteries was raw figures detailing total numbers of burials and grave purchases per year. This study will provide breakdowns as to the kinds of burials, such as private, indigent or veteran, as well as the number of burials per year relative to the year of grave purchase. It will also analyze trends in overall interment and burial patterns through a ten year period. Most importantly, this study will attempt to assess the amount of land remaining for burial purposes, both under present and modified conditions. Finally, the study will also analyze the condition of Cemetery finances, with special reference to revenues and receipts, as well as an explanation and examination of the Cemetery and Perpetual Care Trust Funds.

3. To consider alternative policies which can be implemented immediately in order to solve present problems, and prepare for the eventuality of future ones.

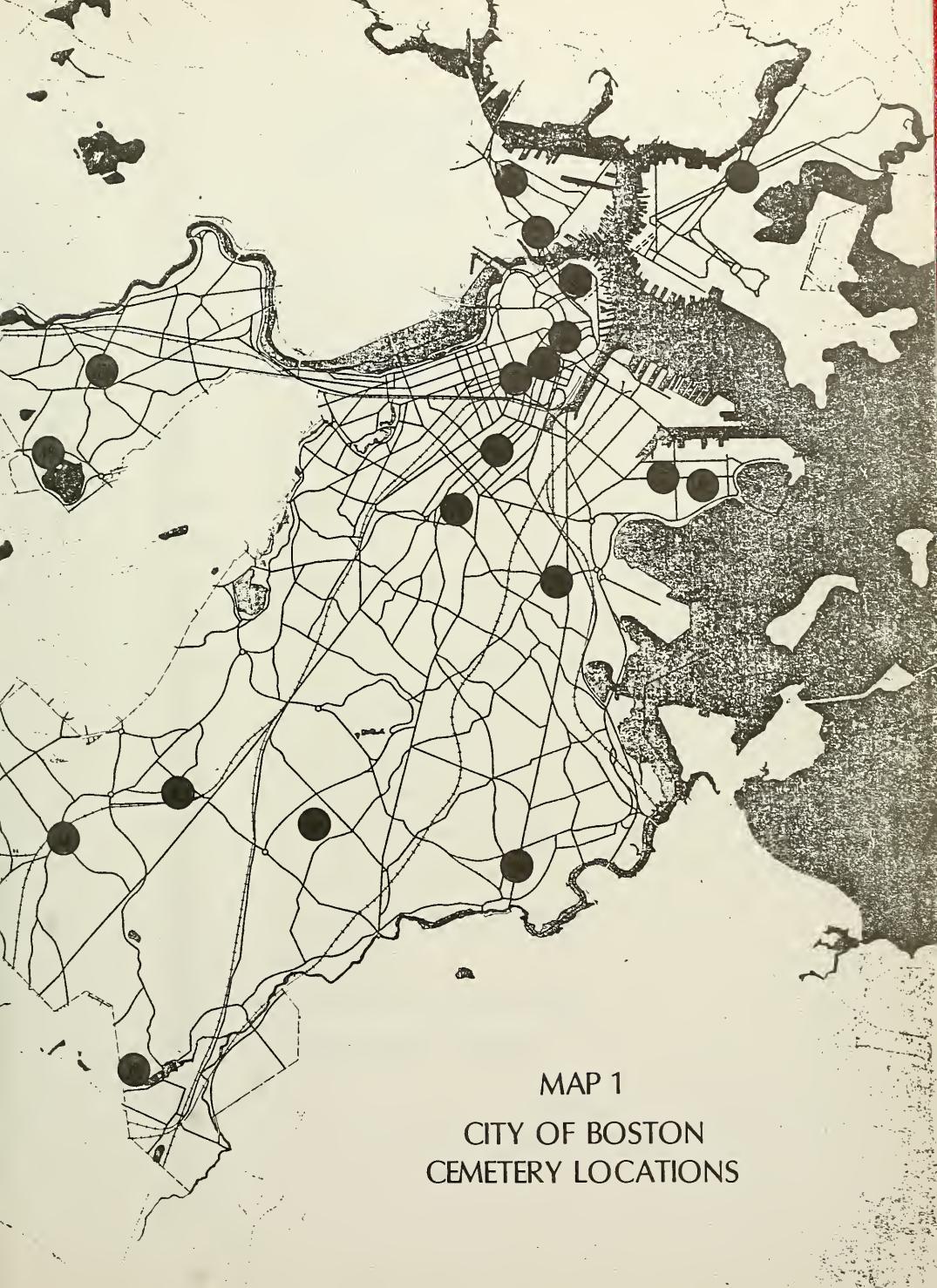
The Parks and Recreation Department, along with its Cemetery Division is faced with both short range difficulties such as diminishing space, and longer range problems, which will intensify if steps are not taken now to plan for them. Thus the study will attempt to offer short-term recommendations and long-term

alternative policies in order to deal with the conditions presented above.

Ultimately, we hope that these recommendations and alternatives will be

incorporated in future policy planning for the Cemetery Division in order to

respond to the critical problems facing us.



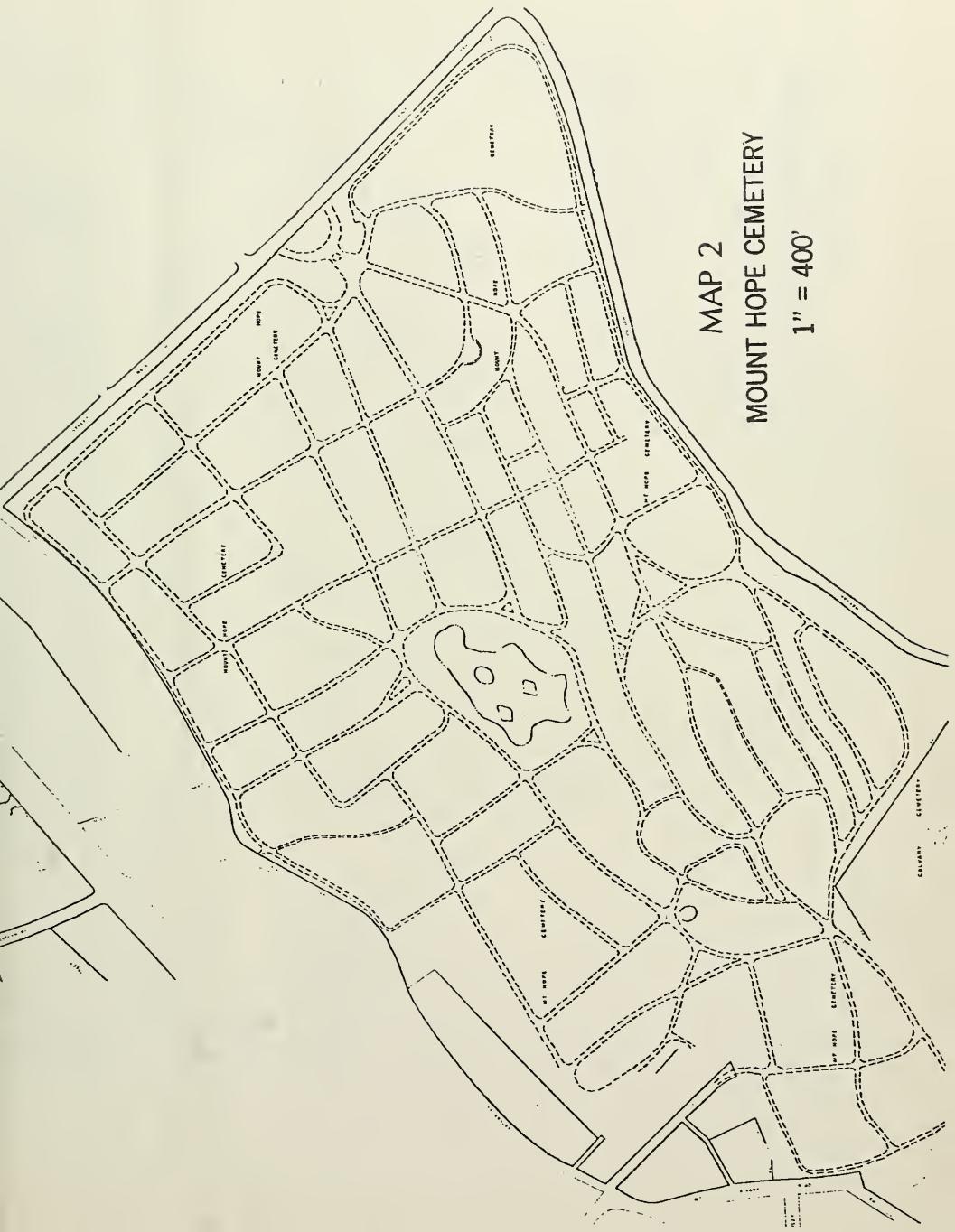
MAP 1
CITY OF BOSTON
CEMETERY LOCATIONS

CITY OF BOSTON
CEMETERY LOCATIONS

LEGEND

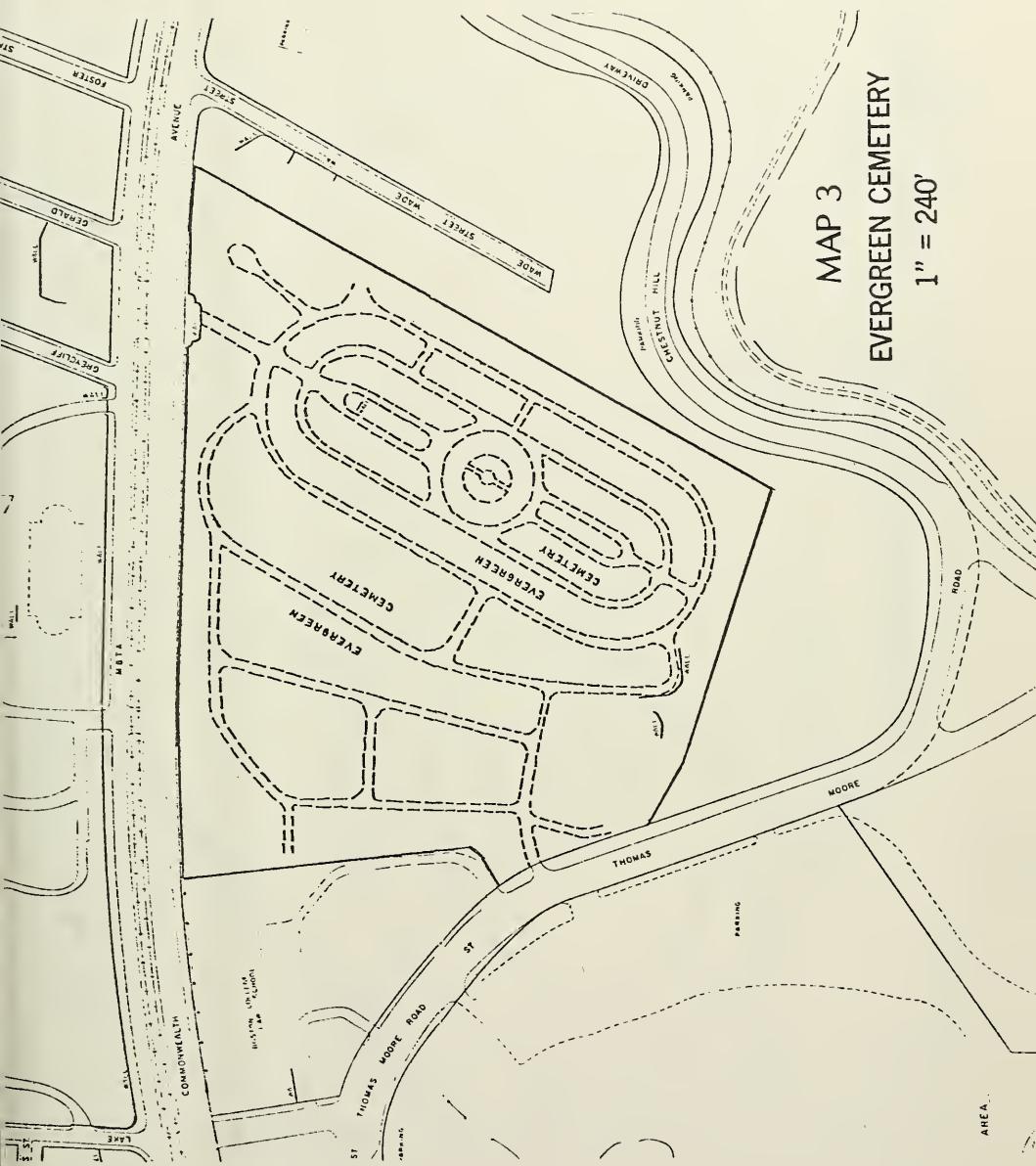
1. Bennington Street, East Boston.
2. Bunker Hill, Charlestown.
3. Phipps Street, Charlestown.
4. Copps Hill, Hull street, City.
5. King's Chapel, Tremont street, City.
6. Granary, Tremont street, City.
7. Central, Common, City.
8. South End South, Washington street, City.
9. Hawes, Emerson street, South Boston.
10. Union, East Fifth street, South Boston.
11. North, Uphams Corner, Dorchester.
12. Eliot, Eustis street, Roxbury.
13. South, Dorchester avenue, Dorchester.
14. Westerly, Centre street, West Roxbury.
15. Walter Street, West Roxbury.
16. Evergreen, Commonwealth avenue, Brighton.
17. Market Street, Brighton.
18. Mount Hope, Walk Hill street, Roslindale.
19. Fairview, Fairview avenue, Hyde Park.

MAP 2
MOUNT HOPE CEMETERY
 $1'' = 400'$



MAP 3
EVERGREEN CEMETERY

1" = 240'



BACKGROUND

The City of Boston maintains nineteen cemeteries, three active and sixteen historical. They are located throughout the city, although the three active cemeteries are situated in the more residential neighborhoods: Mount Hope Cemetery in Roslindale; Fairview Cemetery in Hyde Park; and Evergreen Cemetery in Brighton. (See Maps.) Many of the Boston cemeteries began as town cemeteries within the various towns surrounding the city. Boston's jurisdictional claim to them originated with the annexation of their respective towns to the central core city of Boston. For example, Dorchester North in Uphams Corner, Dorchester was founded in 1633, although Dorchester itself was incorporated into Boston in 1870. Phipps Street Cemetery, Charlestown and Westerly Cemetery, West Roxbury, were established in 1630 and 1683, respectively, although both towns were annexed to Boston in 1874. Mount Hope Cemetery, on the other hand, was purchased and improved by the city in 1849 but "was not held by it for strictly public purposes, but in a proprietary capacity."¹

Thus, it would appear that all of Boston's cemeteries have an historic aspect about them, mostly depending upon date of origin. Within this study, however, we will use the term "Historical" to designate the 16 inactive cemeteries. Although there are no clearcut guidelines as to what distinguishes an historical from a non-historical cemetery, for our purposes, we have largely defined it as one which is a) of historical interest

due to the date of establishment and persons buried there, and b) which is for all intents and purposes, inactive, i.e. does not accommodate burials on a daily, consistent basis, but is capable of doing so when required.

Combined, the historical burial grounds contain approximately 837,000 sq. ft. Their importance to the City Cemetery Division is mostly in terms of the maintenance necessary to preserve both the grounds and the stones. They generate little income for the city, except in the cases of a few perpetual care trust funds. Thus, although the historical cemeteries are of interest when considering the entire cemetery operation (especially in regards to the amount of time and manhours needed to maintain them) their problems are of a different sort than the active cemeteries. Also, their future uses and potentialities as historical and recreational areas, places them in a distinct category, vis-a-vis the active cemeteries. Consequently, we feel that the differences between the historical and active cemeteries are significant enough to warrant a separate consideration of them in this study. We will review this area in a later section of the study.

The City of Boston is obligated both by state and city ordinance to provide for the burial of its dead. Under state law, "Each town shall provide one or more suitable places for the interment of persons dying within its limits." (Massachusetts General Laws, Chapter 114, Section 10). Within Boston, the Parks and Recreation Board has the responsibility of creating a cemetery division and is also enabled to determine payments for and convey deeds for purchased graves. (City of Boston Code, Ordinance 7, Sections 113, 114.) Furthermore, "The Parks and Recreation Commission shall have charge of Mount Hope Cemetery and of all other burial grounds owned by or in charge of the City of Boston, shall set apart and appropriate a portion of the cemetery as a public burying ground for the use

of the inhabitants of the City, free from any charge, therefor." (C.B.C., Statute 7, Section 127.) According to this statute, the City appears to be required to maintain a burial place for all inhabitants, free of charge, but because of the Cemetery Board's ability to levy charges and determine payments for graves, it would appear to be a special provision for the burial of the City's indigent, and by custom, has been interpreted in this manner.³

In addition, the City is required to provide free burial space for veterans of World Wars I, II and the Korean War, by City Council Order. Under a City Council Order, dated January 4, 1965, Mt. Hope Cemetery is designated as the official burial area for veterans of those wars who had lived in Boston for five years previous to their enlistment. This order also permits the burial of one other family member, wife, mother, father, or child under 18 years of age. (A second burial can be accommodated in a single grave under the two-tiered system, in which two caskets can occupy a single grave space.) Similarly, the state requires all cities and towns to provide for the burial of the body of any veteran or adult dependent who dies without sufficient means to pay for the burial.⁴ The statute also insures that this burial take place in a lot set aside for veterans and not in the indigent or welfare section.⁵

Beyond the legal obligation the City has to the dead, it also has a moral obligation to provide an acceptable level of services both in terms of burial for the indigent (for which the City receives a nominal sum) and maintenance of existing graves supported through perpetual care funds. At present, due to a variety of factors, among which are the level of state allowances for welfare burials, cutbacks in available staff, and declining revenues, this optimum level has not been maintained. However, it is necessary that we attempt to achieve

this level, both out of respect to the dead and their survivors, and secondly on behalf of the community as a whole.

CEMETERY ORGANIZATION

The Cemetery Division of the City of Boston exists under the jurisdiction of the Parks and Recreation Department. As the one revenue producing division in the Parks and Recreation Department, the Cemetery Division enjoys a separate status within the Department both in terms of organization and budget, on a par with the other divisions of Maintenance/Engineering and Recreation. Although the Cemeteries' separate character is compromised somewhat by the fact that the division now officially falls under the direction of the General Superintendent of the Field Division, it nevertheless remains a separate and autonomous entity, operating in isolation out of Mt. Hope Cemetery.

The Cemeteries segregation is further reinforced, again, by the fact that it is revenue producing and self-supporting through the self-perpetuating Cemetery Trust Fund and the Grounds Perpetual Care Fund. Consequently it maintains its own vehicles, maintenance garage, and administrative staff. This allows the division freedom of operations, especially since its vehicles are especially assigned to them and day to day scheduling is more certain. However, there are drawbacks to this situation in that the Cemeteries are not apt to benefit from the greater variety of equipment available to the Field Division, nor from the day to day services available in the Maintenance yard.

Yet the Cemetery Division is once again drawn into the mainstream of the Department through the policy-making process. Major decisions affecting the division are made at the Commissioner's level, with the advice of the Executive Secretary, the General Superintendent and the Supervisor of Cemeteries.

The Cemetery Division's organization is similar to that of other divisions in Parks and Recreation with the possible exception of its management staff. At present, it lacks a Superintendent of Cemeteries (unfunded in the budget), but does employ a Supervisor of Cemeteries, who assumes the duties of the vacant Superintendancy. The Supervisor, in turn, is now responsible to the General Superintendent of the Maintenance Division, but, reflective of the division as a whole appears to act fairly independently of him.

The organizational structure of the division is relatively uncomplicated. There are four foremen who manage the crews that maintain the individual cemeteries. The roving crew primarily takes care of the maintenance functions of the historical cemeteries and can also be assigned to one of the active cemeteries on a busy day.

The actual work functions of the cemeteries can be simplified by using general terms. The two primary functions of the division are burial and maintenance. Of the two functions, burial is the more important and must be accomplished on a very tight schedule. Before a section of a cemetery is made ready for interments a great deal of work must first be done.

A survey must be made of the area to enable the Engineering Division to break it up into single, four or eight plot graves. Then graves are made ready for interments. If it is a single or double grave lot, masons will make rows of bases for the grave markers to be placed at the plots. The lots are then sold and are prepared for burial when suitable notice is given.

More man hours are expended on burials than any other work function. A burial is generally broken down into three steps:

- A) Plot excavation, which involves laying out the grave, digging,

and squaring off. This function employs the most equipment, and in winter time is increased by the use of a jackhammer and compressor. This employs three men for .5 hours and five men for one hour during the winter months. A related activity the following day may be the insertion of liners. B) Grave preparation and burial involves dressing the grave with greens and installing the lowering device-- four men are employed for about .5 hours. C) Finally, the hole is backfilled, raked and cleaned -- employs four men for about five minutes each.

A related function to the burial, is the installation of foundation stones. This may be accomplished in several ways: A) doing five or six graves at a time employing two masons and taking about two hours, or laying foundations by rows of graves, using four to six men for two days.

Maintenance is a term that is used to describe several different work functions. Grass cutting, trimming, planting grass and emergencies such as turned over headstones or broken tombs are all part of cemetery maintenance. Each cemetery has its own crew or crews which are intermittently assigned to do maintenance work. Since we have only one roving crew for seventeen historical cemeteries, these historical cemeteries are not done as often as they should be.

Consequently, while routine maintenance is done on a relatively normal basis, emergency maintenance such as repair of fallen headstones or removal of fallen trees suffers. The headstones in each cemetery should be trimmed approximately three times per year. This takes about three minutes per headstone. Since Mt. Hope alone has over 36,000 headstones, this is an improbable task. Ordinarily, this situation could be remedied by hiring additional help. However,

particularly in the Mt. Hope Cemetery we will have used up all available burial space in a few years and some of those men can be transferred to maintenance duties. Similarly, additional men will be transferred to Fairview and Evergreen cemeteries. The temporary solution to the man-power shortage may be to take advantage of the C.E.T.A. program. These workers would do the unskilled labor functions such as grass cutting and trimming. The need for this would be greatest during the Spring.

CEMETERIES - ORGANIZATION CHART

GENERAL SUPERINTENDENT

(ROBERT SHEA)

SUPT. OF CEMETERIES

(VACANT)

SUPERVISOR OF CEMETERIES

(JOE CONNER)

ROWING CREW

Cem. Foreman
(Al Zagami)

4 Grave Diggers

Cem. Foreman
(Wm. Driscoll)
(Joe Connolly)

2 MT. MECH-MASON
2 MT. MECH-MCR
2 SP. HMEO

4 M. EQ OP-L
10 Grave Diggers
1 Laborer
1 Prin. Clerk
1 Head Clerk

MT. HOPE

Cem. Foreman
(Al Zagami)

2 MT. MECH-MASON
2 MT. MECH-MCR
2 SP. HMEO

4 M. EQ OP-L
10 Grave Diggers
1 Laborer
1 Prin. Clerk
1 Head Clerk

EVERGREEN

Cem. Foreman
(Al Maregni)

4 M. EQ OP-L
10 Grave Diggers
1 Laborer
1 Prin. Clerk
1 Head Clerk

FAIRVIEW

Cem. Foreman
(Bill Hornbrook)

1 M. EQ OP-L
1 H. ME0-L
4 Grave Diggers
1 Laborer
1 Prin. Clerk
1 Head Clerk

PRICES

The prices charged by the City of Boston Cemetery Division are on scale with most municipal cemeteries in the area, (See Appendix A) and may perhaps even surpass some of them; however they are woefully short of the prices charged by private cemetery corporations for the same services. The prices charged by the City are indicated by the following price schedule:



PETER G. MEADE
Commissioner

CITY OF BOSTON
PARKS AND RECREATION DEPARTMENT
CEMETERY DIVISION
CENTRAL OFFICE
MOUNT HOPE CEMETERY
355 WALK HILL STREET • MATTAPAN, MASS. 02126

KEVIN H. WHITE
Mayor

October 1, 1977

The following are the charges at all City of Boston cemeteries as of this date.

LOTS:

	Lot	Perpetual Care	Total
Single Lot	75.00	325.00	325.00
2 Grave Lot	150.00	325.00	325.00
3 Grave Lot	225.00	325.00	325.00
4 Grave Lot	300.00	325.00	325.00
6 Grave Lot	420.00	325.00	725.00
 For Non Residents			
4 Grave Lot	325.00	325.00	650.00
6 Grave Lot	420.00	325.00	725.00

OPENINGS:

During Regular Cemetery Hours (7 A.M. to 3 P.M.) on Weekdays	—	410.00
" " " " on Saturday	—	175.00
" " " " on Holidays	—	200.00
After 3 P.M. an additional .20.00		
Opening for an infant under 6 months of age	—	50.00
Opening for a cremation	—	35.00
Handling Charge on a Removal	—	35.00
Transporting Charge on a Removal	—	35.00

LINERS:

The price for a cement sectional liner is .35.00

FOUNDATIONS:

The charge for building a foundation is .35.00 for each full square foot and .10.00 for each additional quarter of a square foot or fraction thereof.

Thus, for a typical burial for a single person in a newly purchased grave the charges would be approximately \$425.00:

Single grave lot	\$75.00
Perpetual Care	\$125.00
Opening	\$150.00
Foundation Stone	<u>\$75.00</u>
	\$425.00 Total

For the purpose of comparison, the same burial in a private cemetery would cost roughly \$600.00:

Single grave w/Perpetual Care	\$275.00
Opening	\$225.00
Foundation Stone	<u>\$105.00</u>
	\$605.00 Total

We can see from this that the City loses approximately \$175.00 each time it provides this range of burial services, in other words, every day.

Previous to December, 1976, the prices charged by the City for openings and related functions were significantly lower than they now are, although grave prices were the same.

Openings

Regular Cemetery Hours - Mon.-Fri.....	\$40.00
Saturdays and Holidays	\$50.00
After 3:00 P.M.	\$25.00
Infant Burial	\$25.00

Foundation Charges

\$20.00 for a full square foot and \$10.00 for each additional quarter of a square foot or fraction.

The City also exacts charges for services it renders to special categories of clients, the indigent and veterans. Although, as has already been pointed out, the City supplies free graves for both the indigent and veterans, it does charge for grave openings, also called interments. For veterans, a cost of

\$150.00 (plus any additional fees) is asked for the opening. Occasionally, this amount is reimbursed under the allotment subsidized by the Veterans Administration of the federal government, which allows a limit for burial of ¹ \$400.00. In addition, in the case of an indigent veteran, the Commonwealth of Massachusetts under Mass. General Laws, Chapter 115, Sec. 8 (Amended) empowers the Veterans Agent of each city and town to allot a sum not exceed \$450.00 for an adult burial of a Veteran or spouse and \$300.00 for a child under seven. The required amount in this instance is paid directly to the cemetery corporation.

In the case of indigent or welfare burials, where there is no immediate family to assume the burden of payment, the Welfare Department of the state will allow \$300.00 on a \$500.00 charge for service. ² However, this payment is made to the funeral director, who, in turn, reimburses the Cemetery office.

CEMETERY UTILIZATION

Boston's cemetery utilization rate is quite high, especially when one considers the number and variety of private and religious cemeteries within the area providing comparable or better services. The three cemeteries, Mt. Hope, Fairview and Evergreen, together average about 1900 burials per year. Of this amount, Mt. Hope represents about 80% of the total with roughly 1500 interments per year. Fairview and Evergreen share the remainder with 10% of the total each, roughly about 200 a year. During the course of the study a 10 year sample of burials was examined to determine any trends or patterns during this time period. The following table summarizes the data.

BURIALS

AR	MT. HOPE	% TOTAL	FAIRVIEW	% TOTAL	EVERGREEN	% TOTAL
66	1661	10.1%	219	8.4%	201	8.32%
67	1539	9.3%	216	8.3%	187	7.7%
68	1627	9.9%	191	7.35%	206	8.5%
69	1521	9.2%	236	9.08%	216	8.9%
70	1476	8.9%	213	8.3%	216	8.9%
71	1598	10.2%	222	8.5%	220	9.1%
72	1512	9.2%	191	7.3%	196	8.1%
73	1482	9%	224	8.6%	215	8.9%
74	1532	9.3%	246	9.4%	354	14.6%
75	1320	8%	280	10.7%	203	8.4%
76	1158	7%	359	13.8%	201	8.3%
	<u>TOTAL</u> : 16,426	100%	<u>TOTAL</u> : 2,597	100%	<u>TOTAL</u> : 2,415	100%

Although the table shows no conclusive trends the data does suggest that for the two cemeteries Mt. Hope and Fairview, for a nine year period from 1966 - 1974 the burial rate remained relatively stable within a range of 185 around a mean of 1590 and within a range of 55 for Fairview around a mean of 222, respectively. Evergreen Cemetery appears anomalous with a range of 167 around a mean of 220, but this is attributable to the unusually large number of burials in 1974 - 354 - and if this year is eliminated the range is much closer within 33 points. The last two years of the sample (1975 & 1976) were isolated due to their dramatic deviance from the mean, especially for Mt. Hope and Fairview. In each case there has been a significant loss in burials for Mt. Hope and a corresponding gain for Fairview. Although there are no definite concrete reasons for this (at least from our perspective) we would suggest that

one cause is the elimination of welfare burials at Mt. Hope during the latter half of 1975 and their resumption at Fairview Cemetery from August of that year to the present. Evergreen Cemetery after the divergent year of 1974, appears to be on a more even keel, although here too we are facing losses in our burial business.

While it may be interesting and certainly necessary to consider total number of burials in a cemetery for comparative or diagnostic purposes of budget preparation, allotments of manpower, etc. total burials in themselves are not precise enough indicators for future planning. A more clear-cut index in terms of burials in recently bought graves, previously utilized graves, veterans and indigent burials, is preferable. This type of information will not only provide the total numbers necessary, but will also explicate the differences between burials in past and presently bought graves and their implications for future development and future business of the cemetery. Such a breakdown for Mt. Hope Cemetery, the city's largest and busiest is as follows:

<u>YEAR</u>	<u>LOTS/GRAVES SOLD</u>	<u>VETERANS B.</u>	<u>INDIGENT B.</u>	<u>SECOND B.</u>	<u>TOTAL INTERMENTS</u>		
1966	408	10.1	249 9.7	256 11.8	748 9.7	1661	
1967	334	8.2	244 9.5	231 10.6	730 9.5	1539	
1968	300	7.4	260 10.1	287 13.2	780 10.1	1627	
1969	300	7.4	230 9	302 13.9	689 8.9	1521	
1970	312	7.7	231 9	240 11	693 9	1476	
1971	406	10	249 9.7	195 8.9	748 10.2	1598	
1972	390	9.6	233 9.1	189 8.7	700 9.1	1512	
1973	434	10.7	215 8.4	188 8.6	645 8.4	1482	
1974	382	9.4	235 9.2	211 9.7	704 9.1	1532	
1975	395	9.7	214 8.3	69 3.1	642 8.3	1320	
1976	382 4043	10.5 100%	194 2554	7.5 100%	582 7661	7.5 100%	1158 16,426
	<u>TOTAL</u>	<u>TOTAL</u>	<u>TOTAL</u>	<u>TOTAL</u>	<u>TOTAL</u>		

From this information, it is apparent that the demand for new graves or lots has remained fairly constant over a ten year period. Veterans Burials remained stable although there is evidence of a slight decrease in the last two years, 1975 and 1976. This however is to be expected since it is over thirty years since World War II and nearly 30 years since the Korean Conflict -thus the bulk of deaths in veterans of these wars would normally have peaked in the late 1960's and early 70's, and is now on the decline. Indigent burials reached their highest point in 1970 and were terminated at Mt. Hope in August of 1975, with a resulting low of 69 indigent burials. Simultaneously, a loss would also have occurred in this category due to the stricter requirements set forth by the state for eligibility for welfare burials within the past two years. Second burials also remained fairly stable, but again the last two years indicate a decline in second or later burials.

Under these conditions, Mt. Hope Cemetery can probably expect to operate near capacity in regards to sales and burials in new lots and graves up until the time it runs out of available land, perhaps in the early 1980's. If it continues to provide free graves to veterans, it can also expect to operate at full capacity until a limit is reached in this respect. A loss in second or later burials is somewhat unexpected, since it is reasonable to assume that such interments would keep pace with the rate of new lot sales; however, reasons for this will be examined in the next section.

Despite the fact that the above information concentrates on Mt. Hope, its findings are sensitive enough (universally applicable for certain kinds of situations) to be able to be applied to Fairview and Evergreen Cemeteries as well. Thus, Fairview and Evergreen should also be able to expect maximum demand for their remaining burial spaces, inclusive of indigents at Fairview, while second or later burials should remain stable or may perhaps increase.



The factors determining burials rates and burials rates at specific cemeteries in particular are diverse and numerous. In the first instance, the most obvious factor is the death rate and its movement over a period of time or fluctuation during a particular period -during periods of flu epidemics, etc. Although we have not considered this in detail, we do feel safe in pointing out that the death rate has remained relatively stable for the past ten years, and has somewhat declined in the case of infant mortality.³

A second factor is demographic patterns, particularly in holders of deeds to cemetery lots. Present policy enables holders of deeds to cemetery lots to bequeath such deeds to their heirs, until the graves are filled to capacity.⁴ Owners of deeds, according to the terms of the agreement with the city, maintain the right to burial, but not to the land itself.⁵ Subsequently, they are entitled to pass this right onto their heirs. Thus, a lot may be purchased by one generation and depending upon the demographic and geographic patterns of their inheritors, may not be used again until the 3rd or 4th generation -in other words, burials may in many cases follow random patterns for second or later burials. Consequently we see grave purchases during certain years, but burials occurring sporadically thereafter, in some cases. In the case of Mt. Hope, since it is an old cemetery, dating back to the 1840's, these irregular patterns are even more pronounced and may explain variations in second or later burials. More immediately, the difference between male and female mortality rates is also a significant issue in burial rates. Since American men tend to die at an earlier age than their wives, we would also expect this to be reflected in burial patterns, with spaces between first and second burials of roughly 5-7 years.⁶

Other determinants in the burial rates at Mt. Hope, Fairview and Evergreen also fall into other less clearly defined categories. The first of these is personal preference. The cost of the services, the proximity of the cemetery

and the appearance of the cemetery all affect an individual's choice of a particular cemetery. Again, this can have a significant impact when coupled with demographic patterns, such that second generations who have the option of being buried at a city cemetery may choose not to be, depending on the above.



HISTORIC CEMETERIES

Boston's Historic Cemeteries are also utilized, but in a different manner. Although the historic cemeteries may operate as active receivable cemeteries, they are, for all intent purposes, inactive cemeteries, whose true function now is one of historic landmark and setting for passive recreation. In a survey conducted by the Parks and Recreation Department in the three historical intown cemeteries,¹ Old Granary Burial Ground, King's Chapel Burial Ground, and Copps Hill Burial Ground, these recreational uses were confirmed through respondent's answers. Of a total of 98 people interviewed, nearly all were involved in an activity of a passive nature. Predominant among these were sightseeing, touring of the graveyards and inspection of the old gravestones. Secondary activities included, reading, sitting and feeding the birds.

The degree of use of Boston's historic cemeteries appears to be dependent to a great extend upon their locations. Throughout this study we have described historic cemeteries as 1) inactive cemeteries; and 2) of historical interest due to the date established and the people buried there. Thus, widely defined, all of Boston's inactive cemeteries are historic. In a narrower sense, however, we can distinguish between the intown historic cemeteries, all of which lie on the Freedom Trail; and the historic neighborhood cemeteries, which although of



historic interest, are not as widely regarded, except by local neighborhood historical societies. In view of this distinction, it is possible to correlate use with recognition. And, proceeding further upon this concept, recognition is dependent upon the degree to which the public is informed of their existance. This expectation was confirmed in our survey in which 42% of the people interviewed stated they had visited the cemeteries based upon information they had received from pamphlets or from the Tourist Information Center at City Hall. 38% of the people reported they knew of the cemeteries through other means, such as personal information, teacher's suggestions or just by the fact that they worked nearby. The remainder could give no reason for their presence.

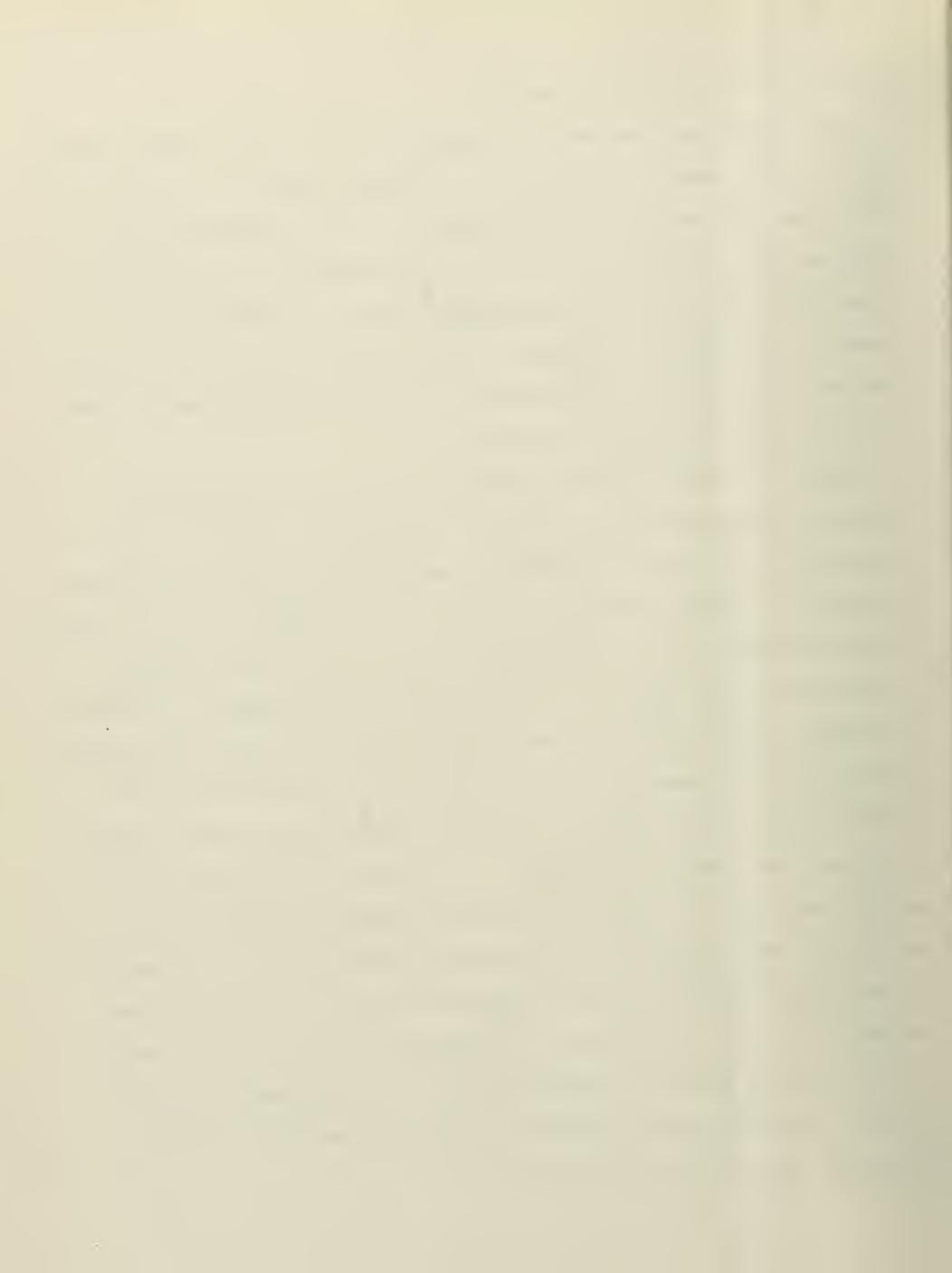
A similar indicator of the recognition factor of Boston's historic cemeteries, particularly the intown ones, is the geographic distribution of users of the cemeteries. As would be expected for cemeteries on the Freedom Trail out of state residents, comprised 39% of the total. But of our sample of 98, 38% were Boston residents, a surprising figure when one considers the relative obscurity of these cemeteries and the general apathy associated with them, especially as far as local Bostonians are concerned.

It appears obvious that some sort of plan is necessary in order to increase awareness of the historic cemeteries and in no case is this truer than in the case of the neighborhood historic cemeteries outside the downtown area. These cemeteries, which are important conservators of early neighborhood history, are maintained, but not significantly appreciated both within the neighborhoods and city-wide. Unlike the intown cemeteries, they have no stationary crews and are only maintained on a rational basis. While this roving maintenance is scheduled based upon the average rate of vegetational growth in the cemeteries, it may also leave these cemeteries in a less than desirable state. Many of these cemeteries are also the victims of rampant vandalism, resulting in

destruction and desecration of headstones.

These neighborhood cemeteries (including the Burial Ground on Boston Common) are also closed cemeteries -their gates are locked. Paradoxically, locking the gates serves as a means of attracting vandals, as well as repelling those interested in historical cemeteries; it furthermore denies access to community residents who may appreciate the neighborhood historical aspects of the cemeteries. An experimental change in policy could be enacted, such that the gates are left open during daylight hours and closed during the evening in order to increase usage and minimize vandalism.

Despite the seemingly morbid character of such an idea, neighborhood historical cemeteries possess a great deal of recreational potential. As we have seen from our survey of the downtown cemeteries, many people would welcome an opportunity to explore evidence of Boston's and the community's past. Boston's old gravestones serve as a primary historical source; as indicators of early literary form, and as precursors of early neighborhood development. Furthermore, it has been suggested that since cemeteries are "one of the larger single-purpose users of land in a community,"² their functions could be widened to include possible multiple uses, usually of a controlled, passive sort, such as walking,³ bicycling, stone-rubbing or photography. In opening up such cemeteries to multiple use, there is evidence of a resulting decrease in vandalism, due mainly to a "better appreciation of the cemetery function by the young people."⁴ As reported by cemetery officials who have experimented with alternative uses, an important factor is "a high level of neighborhood awareness of the cemetery as an asset and a potential recreation resource."⁵ Encouragement of such an awareness of Boston's historic cemeteries is necessary for their continued integration into the life of the community.



CEMETERY LAND USE

The problem of cemetery land usage is a difficult and pressing one. Cemeteries in general and urban cemeteries in particular, take up valuable space, which in the overall view of things could be put to more productive use. As the demand for urban land becomes more acute, the incorporation of additional land areas into cemeteries, or the development of new cemeteries within urban boundaries takes on a new significance. A decision must be made over the relative advantages of using valuable land for the dead over land for the living. At least both should be considered.

There are two noteworthy facets to this dilemma, one in terms of comprehensive planning, and the other in terms of economics. First, by creating new cemetery areas, a city or other municipality must reduce the amount of land available for commercial or residential use, or in an even more likely situation, diminish the amount of available open space, in an already crowded environment. (This is premised upon the fact that in an urban area, the size and quality of land necessary for cemetery development would be open space parcels.) Boston in general has about 3500 acres of open space according to a report of the Boston Redevelopment Authority.¹ If public cemetery footage is computed in with the other forms of open space, Boston's entire acreage would comprise 5.6% of total open space in Boston.² Secondly, the city or town must be ready to remove from its tax rolls a large amount of revenue producing land. Paradoxically, one study³ has suggested that cemeteries do "represent some high priced real estate," in terms of the income they can demand for individual parcels, versus a lower marginal return on the land in the open real estate market. Under further scrutiny, this idea seems to be based upon the initial investments made in the short run, with

little consideration for the long run. This study expands on the value of cemeteries thus:

"It is not uncommon to get 1500 grave lots to an acre in a cemetery. At a fairly conservative cost estimate of \$150 per grave lot, cemetery land would sell for \$225,000 an acre. In land for the living, a residential subdivision might be able to squeeze out five lots per acre. At \$8,000 per lot, he would have land worth \$40,000 per acre..."⁴

The disparity between how much money a cemetery corporation can actually get out of its land and how much land would be worth on the market seems astronomical. This is due in part, as the author points out, to elimination of factors such as initial capital expenditures. It further ignores the fact that such revenues are one time occurrences, while land which is commercially used will appreciate over the years, accruing ever larger amounts in tax revenues.

The potential clash between conflicting interests of the community are fast becoming every day realities in many towns in Massachusetts, and Boston is no exception. Unless effective measures are taken, Boston can probably expect to use up most of its present, developed cemetery land within the next 10 years or earlier.

The present total available acreage in Boston's municipal cemeteries is vanishing rapidly. We have already seen that the city possesses about 189 acres in active cemetery land. Of this, the breakdown for the three active cemeteries is: Mt. Hope - 125.32 acres, Fairview - 50 acres, Evergreen - 13.99 acres. It is with Mt. Hope's decline that we should be most concerned for the moment. Again, Mt. Hope is the city's single most active cemetery, with about 1500 burials per year, of which at least 40% are new burials, or roughly an average of 600 per year. Included in the number of new or first burials are all first private and veteran's burials. Inasmuch as new veterans graves fall within the category of first burials, and in consideration of their numbers (roughly 25% of all new burials), as well as the large amount of land they use up; and since for the present we can assume no discontinuation

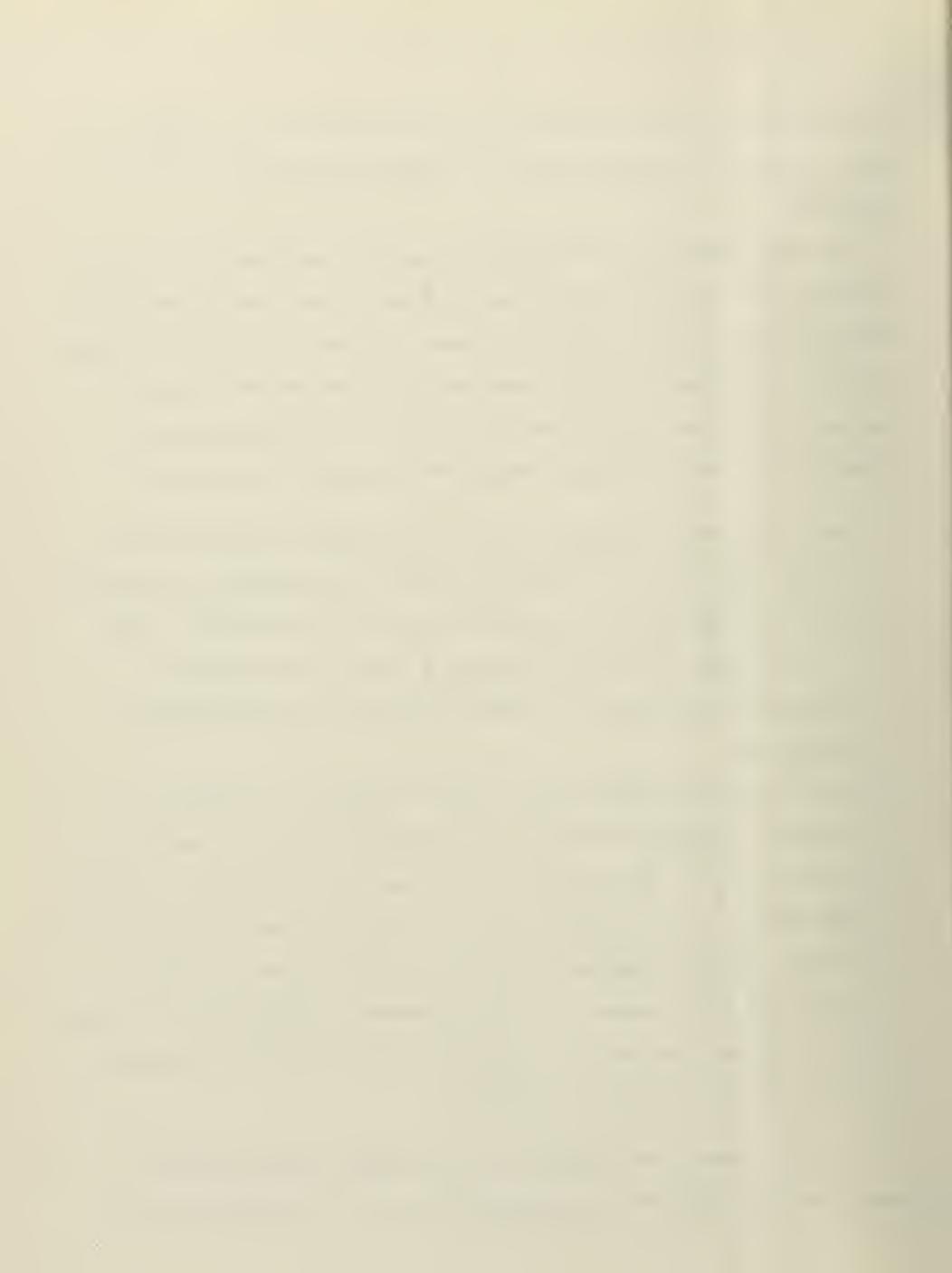
of veterans burials due to City Council Orders and custom, we must necessarily always include first Venteran's burials within the classification of original interments.

Mt. Hope Cemetery is now faced with a declining land base of only about 117,300 sq. ft. or roughly 3910 graves. At the present rate of new burials, this would result in the closing of Mt. Hope to new burials in 6.5 years time, by 1983. The prospect of such a premature closing may be even sooner given the type of burial and size of the grave bought. The following diagram illustrates the remaining burial areas at Mt. Hope. (See Illustration A)

Out of the remaining spaces, Area A is designated as the Veteran's lot, so that 1866 graves are effectively removed from non-veterans consumption. Area D., Gardenia Grove is currently divided into 4 grave lots. When 1 lot is bought, it actually withdraws 4 graves from the market. Consequently, the actual time frame can be even less than originally anticipated.

In a similar predicament are the other two cemeteries, Evergreen and Fairview. Evergreen Cemetery has a remaining burial space, unused, of 31.242 sq. ft. When subdivided into grave lots, this amounts to about 1000 graves. At its present rate of 200 burials a year, 92 being first burials, Evergreen Cemetery could continue supplying new graves for another 10 years; however, this time allowance is dependent upon no change in the present rate, which in view of the approaching discontinuation of first burials at Mr. Hope is unlikely.

Fairview Cemetery, the cemetery with the largest remaining amount of undeveloped land, maintains a developed 28,650 sq. ft. of burial space with



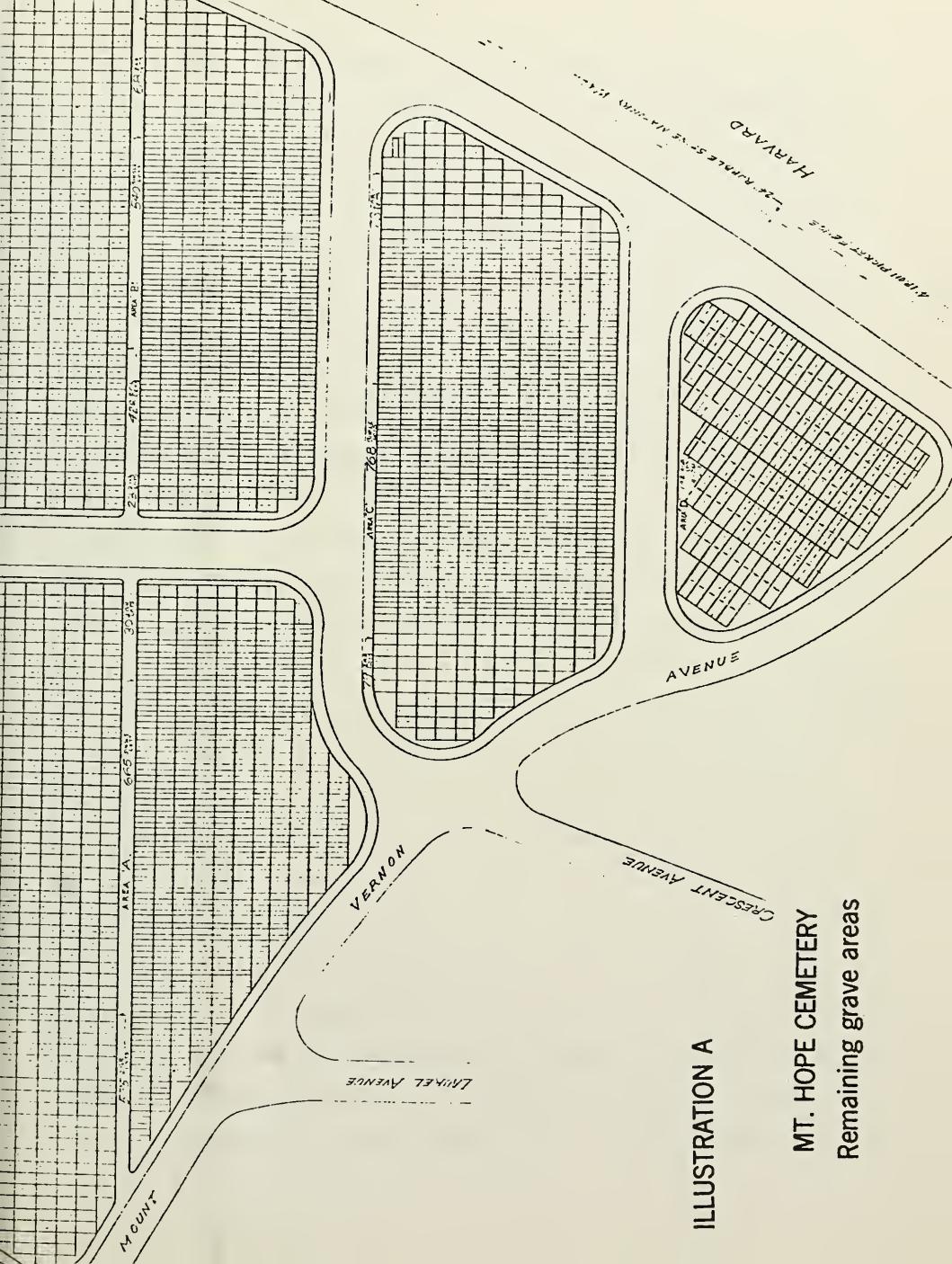


ILLUSTRATION A

MT. HOPE CEMETERY
Remaining grave areas

approximately 1,000 graves ready for use. This does not include the area reserved for indigent burials. Presently in this section, there are four full ranges, with 40 graves to a range, in addition to a remainder of 20 graves in range 5. (Note, although most graves can usually accomodate two persons, it is not uncommon for indigent graves to hold as many as three people or more.)¹⁰ Consequently, with an average of 230 burials per year, of which in the past two years, at least 100 having been indigent burials, in addition to 60% fo the remainder or 90 first burials, Fairview can expect to continue supplying new graves for approximately another 10 years for non-indigent and at least another 40 years for the city poor, if it continues at its present rate.

The key phrase in the above paragraph is "at its present rate." In all likelihood, none of the active cemeteries can continue at their present rates due to the constraints imposed by land usage. It appears certain that Mt. Hope Cemetery will cease selling new graves quite soon, by our estimation, 1983. At this point, a transfer of first burials will most probably take place to our other two cemeteries. However, at this juncture, other factors will determine the allocation of new lots. The first and primary determinant is the amount of land still available within the other two cemeteries. Fairview Cemetery is without a doubt, the city's cemetery of the future. In addition to its substantial holding of developed land, it also possesses a large tract of undeveloped land of approximately 357,340 sq. ft.¹¹ In terms of burial spaces, this works out to approximately 12,000 graves.¹² Again, however, any anticipated use of the land must presuppose development of the parcel. At present the only development plans which exist for the area, are an extension of roads up into the hilly section of the parcel. Further definition of

boundaries and examination of ownership titles must take place before any activity can begin.

Evergreen Cemetery, in addition to the existing 31,000 sq. ft. now ready for burial, also has an adequate amount of land suitable for cemetery development. Previous to 1976, the City did own approximately 108,000 sq. ft. of land in the back of Evergreen Cemetery, fronting on the MDC Chestnut Hill Reservoir. Due to the nature of the parcel, however, particularly the large area of ledge deposits, as well as its steep elevation, parts of it were considered unsuitable for further cemetery development. Consequently, the Parks and Recreation Department transferred approximately 25,000 sq. ft. to the Metropolitan District Commission, leaving the City with about 1.9 acres ¹⁴ for cemetery use. (See Illustration B.) This area which also has a characteristically steep slope in its right most portion is nevertheless usable in terms of graves, with an estimate of approximately 45,000 sq. ft., with a projected capacity of about 1500 graves.

Consequently, the Parks and Recreation Department and the Cemetery Division have a variety of options in dealing with the continuation of new burials within the constraints imposed by land limitations. The first option is to operate at the present level of burials, but within the parameters established by the currently prepared land, in other words, to work with what we already have. Under these conditions, presupposing that Mt. Hope Cemetery closes by the end of 1983, we could hypothesize a division of the remainder of new burials equally between Fairview and Evergreen Cemeteries, or roughly ¹⁶ 300 additional burials per year for each of these cemeteries. By 1984, having used up 644 graves, Evergreen would be left with nearly 356 graves; at a rate of 390 first burials per year, it would be closed within less than a



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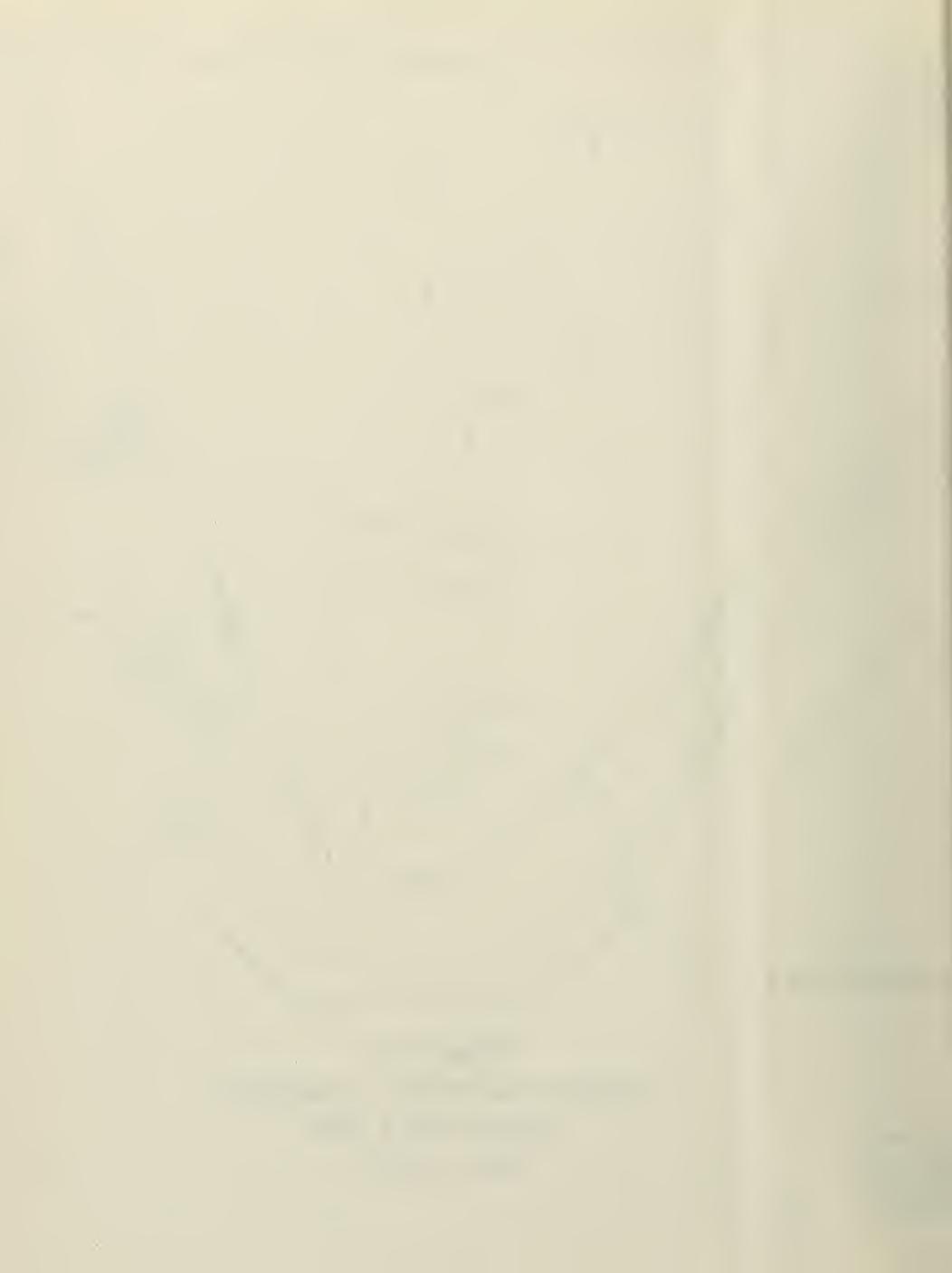
ILLUSTRATION B

METROPOLITAN DISTRICT COMMISSION
CHESTNUT HILL PARK
MAY 5, 1976

MAY 5, 1976

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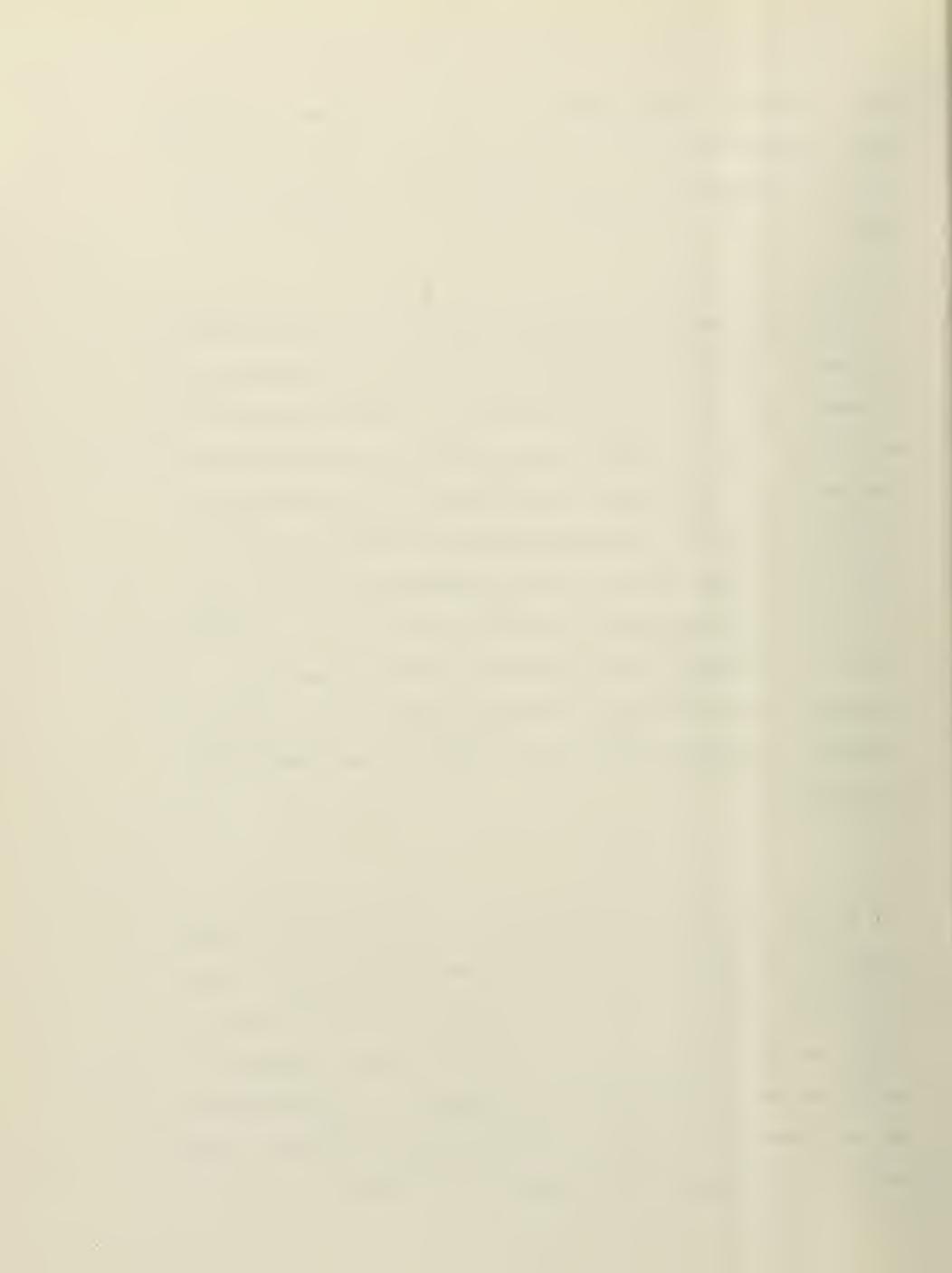




year. Similarly, Fairview Cemetery, by 1984, would see its available graves reduced to 370. At a corresponding rate of 390 first burials per year, Fairview's purchasable land would also be used up within a year.

The second more desirable option would be to develop the remaining land at Fairview and Evergreen. Since the city already owns this acreage, it would only necessitate funds for reclamation of the land which in the long run appears to be preferable to the acquisition of new land areas. Development of these parcels if not extending the receiving capacities of the cemeteries for a substantial period of time, would at least allow the city a breathing space during which it could plan for alternative strategies for the future. We estimate that Fairview Cemetery would supplement its present capacity of approximately 900 graves by an additional 12,000 graves. Correspondingly, Evergreen Cemetery would expand its present burial areas by 1500 graves.

⁴ The deciding factor in determining the longevity of each cemetery is the distribution of first burials between both cemeteries, once Mt. Hope has closed; or the degree to which the Cemetery Division weights the distribution. If the Parks and Recreation Department administration, in concurrence with its Cemetery Division authorized the development of the unused land at Fairview and Evergreen, it would result in an increase of 12,000 graves at Fairview for a total of



12,370 graves, and an increase of 1500 graves at Evergreen for a total
of 1856 graves, by 1984 respectively. Consequently, we can project
various affects upon land use by employing alternative ratios.

The following plans represent tentative divisions of first burials from Mt. Hope which could be attempted at the other two cemeteries. Basically, these plans involve manipulating the total number of first burials in such a way that they will either maximize the land remaining, at its optimal output, or will allow a certain amount of time necessary to prepare remaining land for burial. Although termination dates of available land at Fairview and Evergreen may vary between 1-2 years, essentially they will remain within a close range, because we are dealing with a fixed number of burials and amount of land (for purposes herein).

Plan A involves dividing the ^m~~A~~ unaccommodated first burials from Mt. Hope on an even 50%-50% basis between Evergreen and Fairview. Plan B entails shifting all, 100% of Mt. Hope's first burials, first to Evergreen and at its completion, to Fairview Cemetery. Plan C calls for a concurrent division of all first burials from Mt. Hope with 75% going to Fairview Cemetery and 25% going to Evergreen Cemetery. A more detailed explanation of these alternative plans is given.

Plan A: 50% - 50% Division

An obvious solution would be to equally divide the burials between Fairview and Evergreen such that they balance one another

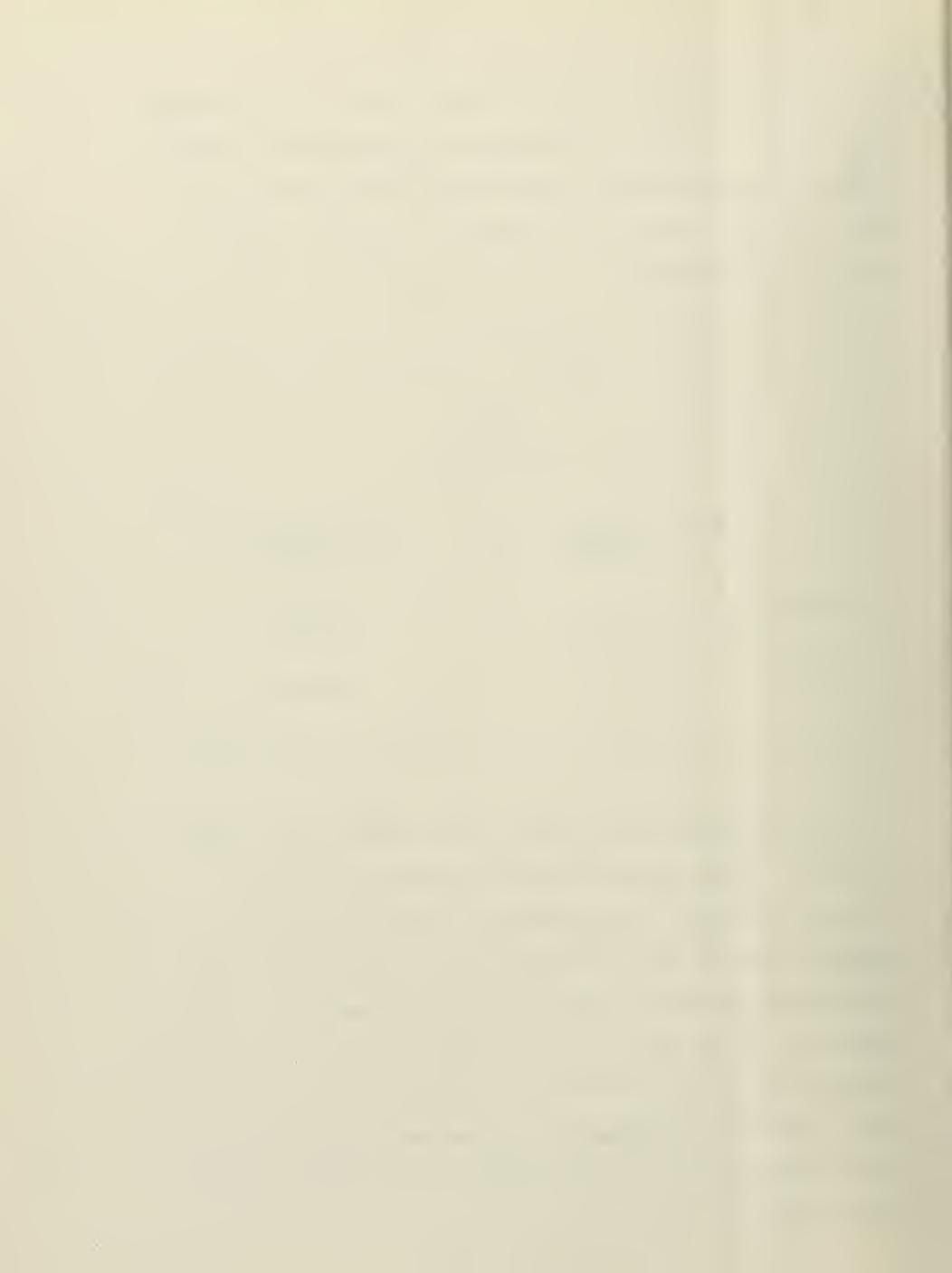
in the amount of burials they accept from Mt. Hope, at its cessation of first burials. At this rate, Mt. Hope and Evergreen would continue to accommodate their own burials, approximately 90 each per year, while augmenting their capabilities by 300 each per year, for a total of 390 per year (See Chart A).

CHART A

Burial Rates

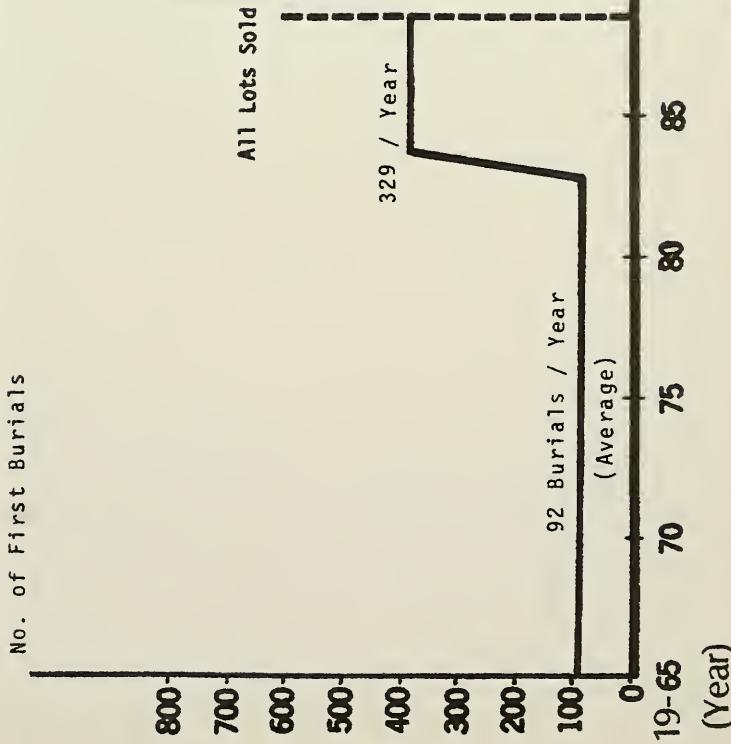
	Previous Number First Burials	New Number First Burials	19
EVERGREEN	92/Year	392/Year	
FAIRVIEW	90/Year	390/Year	

Evergreen Cemetery, with a total of 1856 graves, consuming them at a rate of 392 new graves per year, would deplete its supply in 4.7 years, or by 1988. On the other hand, operating at the same approximate level of burials, 390 per year, Fairview, by 1988 would have completed approximately 1950 graves, with a remainder of 10,420 graves left. At this point, it would pick up the slack from Evergreen and continue at a new level of 780 burials per year for another 13 years. Under these circumstances, Fairview Cemetery would be finished to new business by the year 2001. Graphs A and A1 illustrate these possibilities.

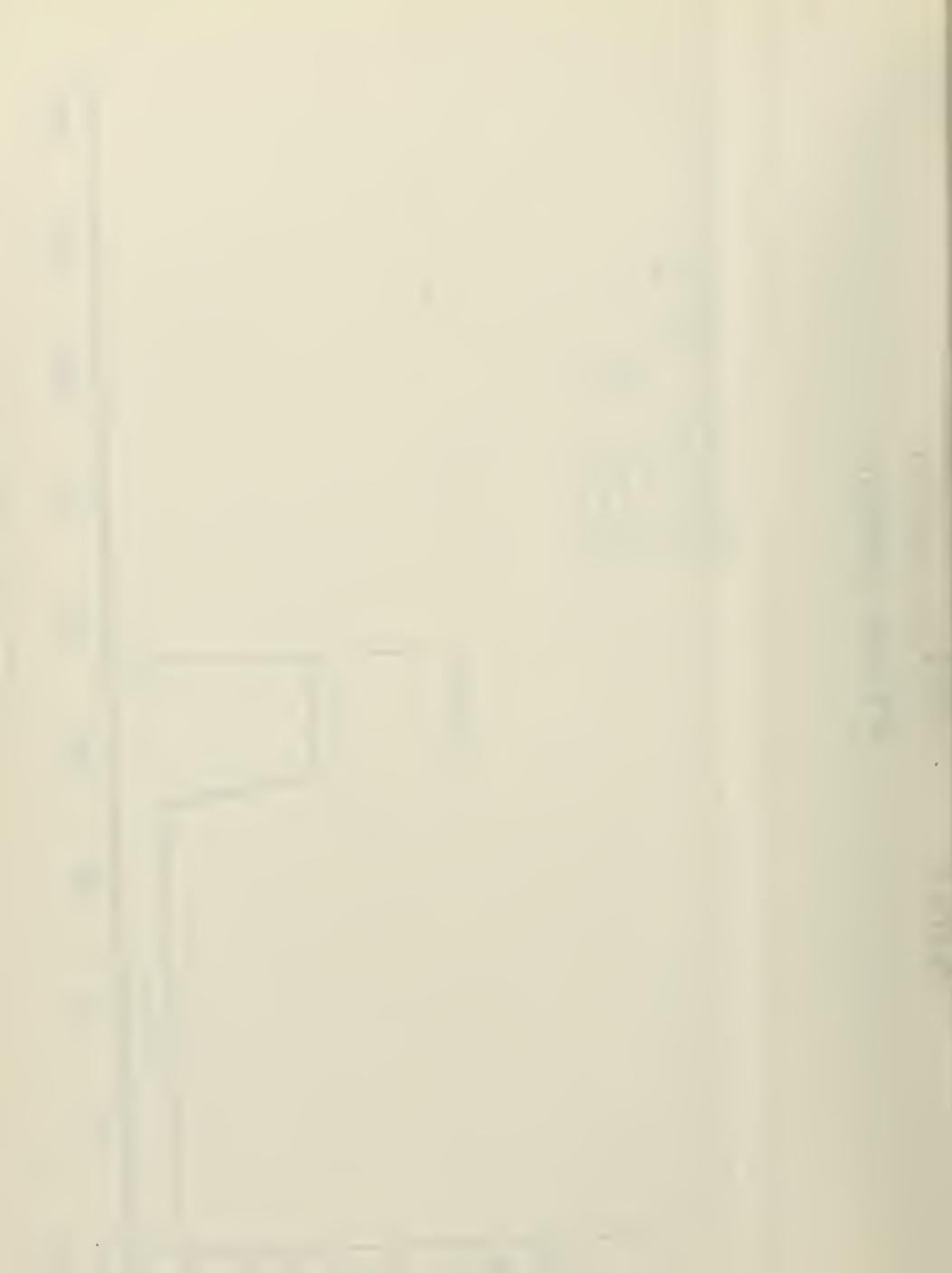


GRAPH A EVERGREEN CEMETERY
50%-50% DIVISION

New Graves Sold = Remaining Land for Development = 82,935 Sq. Ft.
 Remaining Graves - 1984 = 356
 Possible Graves - 1984 = 1500*
 Total Graves = 1856
 First Burials - 1984 = 329
 All Land Sold = 1988
 All Lots Sold



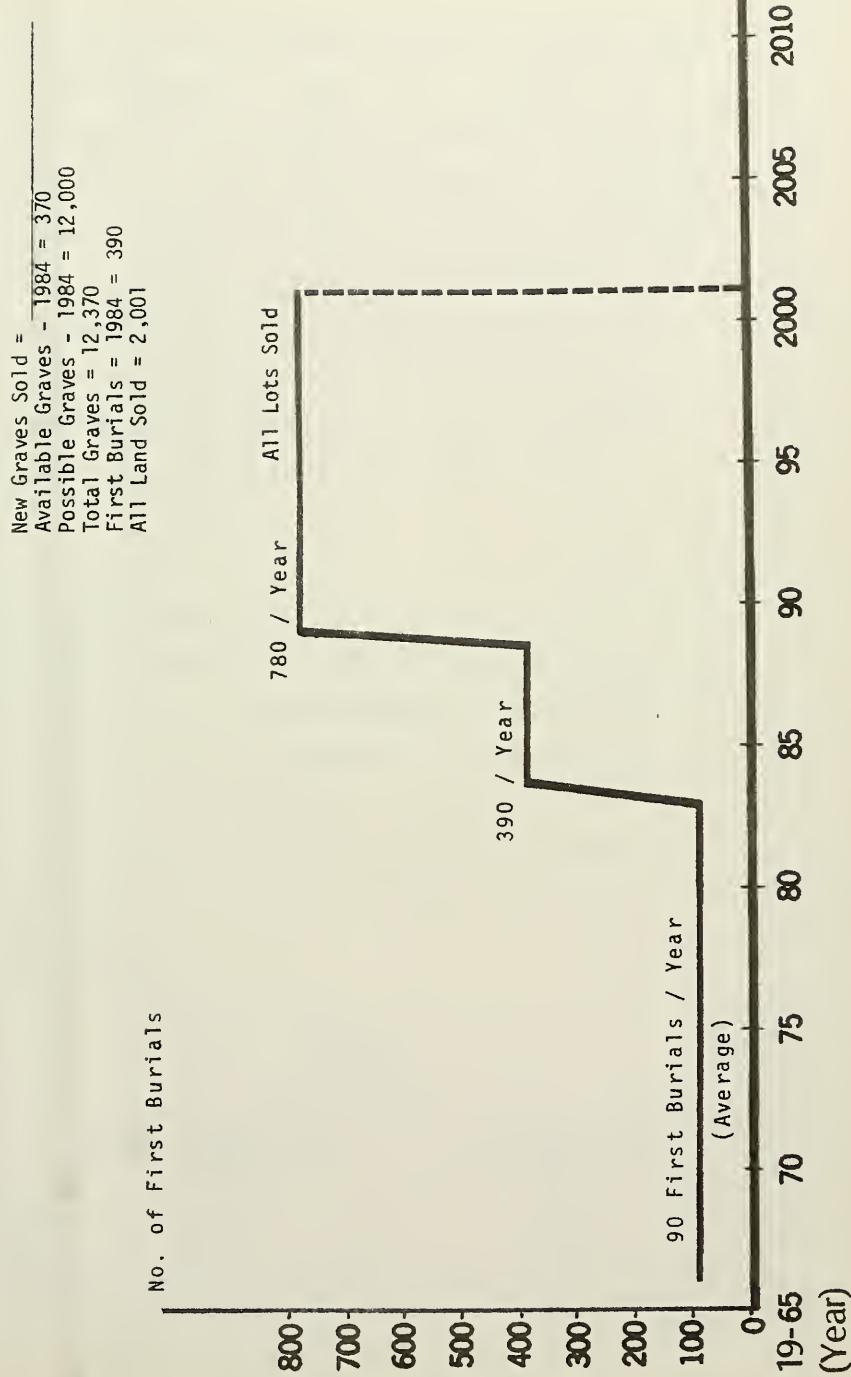
* Estimate given by cemetery supervisor

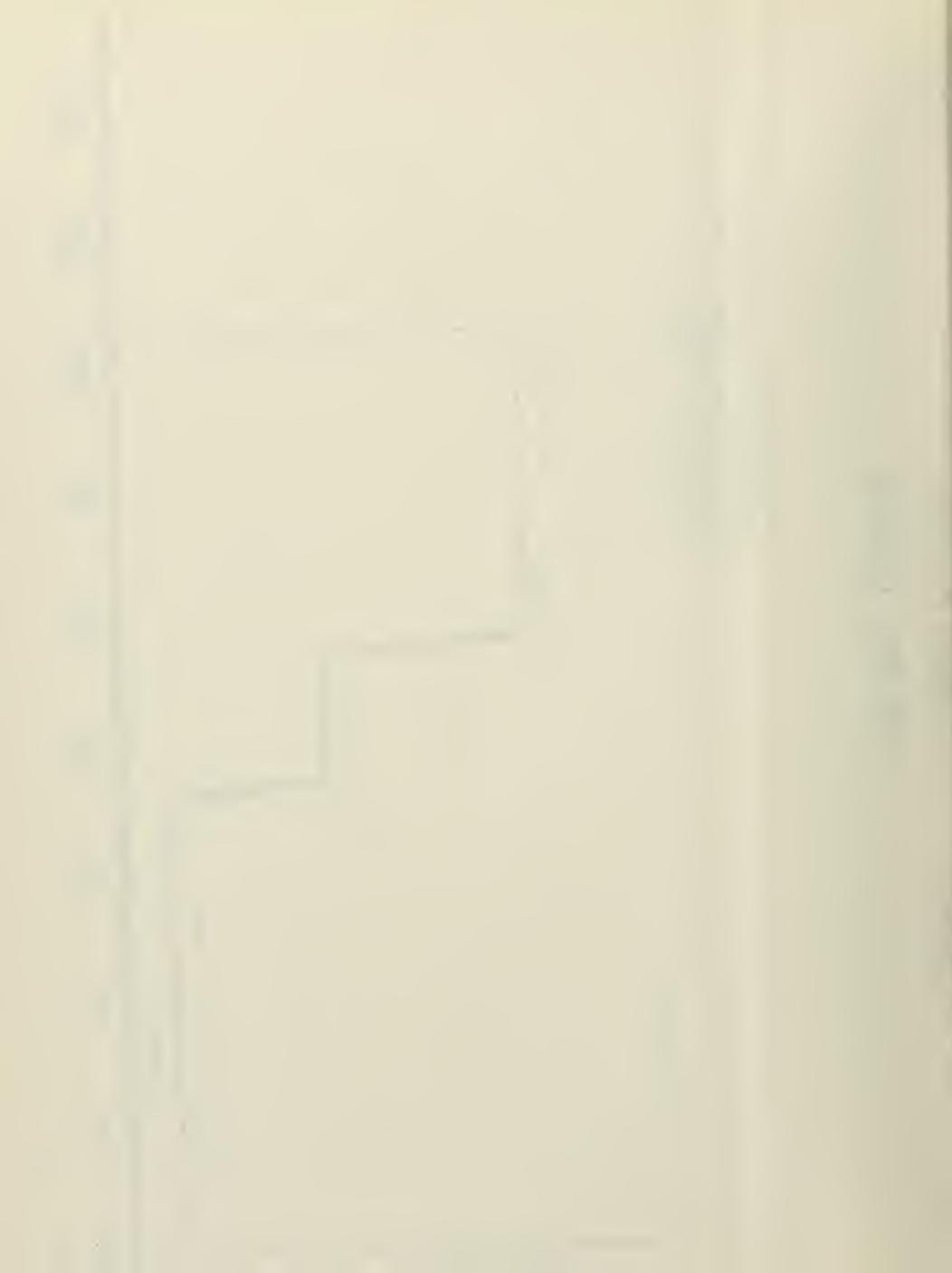


FARVIEW CEMETERY

50%-50% DIVISION

GRAPH A1





Within this and all other suggested partitions, a provision must be made as to the placement of a Veteran's Lot. In the past, all veterans have been buried in a designated Veteran's Lot, (one of the requirements of the city's policy regarding Veterans). It would seem probable that this arrangement would also be continued in the future, such that one of the cemeteries would accomodate the Veterans. In all likelihood, this would be Fairview Cemetery, due to its large tract of land. Plan A easily accomodates the policy of burying Veterans together inasmuch as the original number of 300 transfers from Mt. Hope would include the average 230 Veterans burials per year.

Plan B: 100% - 100% Division

A second and alternative choice would be to divert all of Mt. Hope's first burials to Evergreen Cemetery for the amount of time it takes to develop Fairview Cemetery to a point where it can receive the overflow from Mt. Hope. In this case a sequential 100% disbursement would necessitate the establishment of a Veterans' Lot at both cemeteries. (See Chart B for computation of new figures.)

CHART B

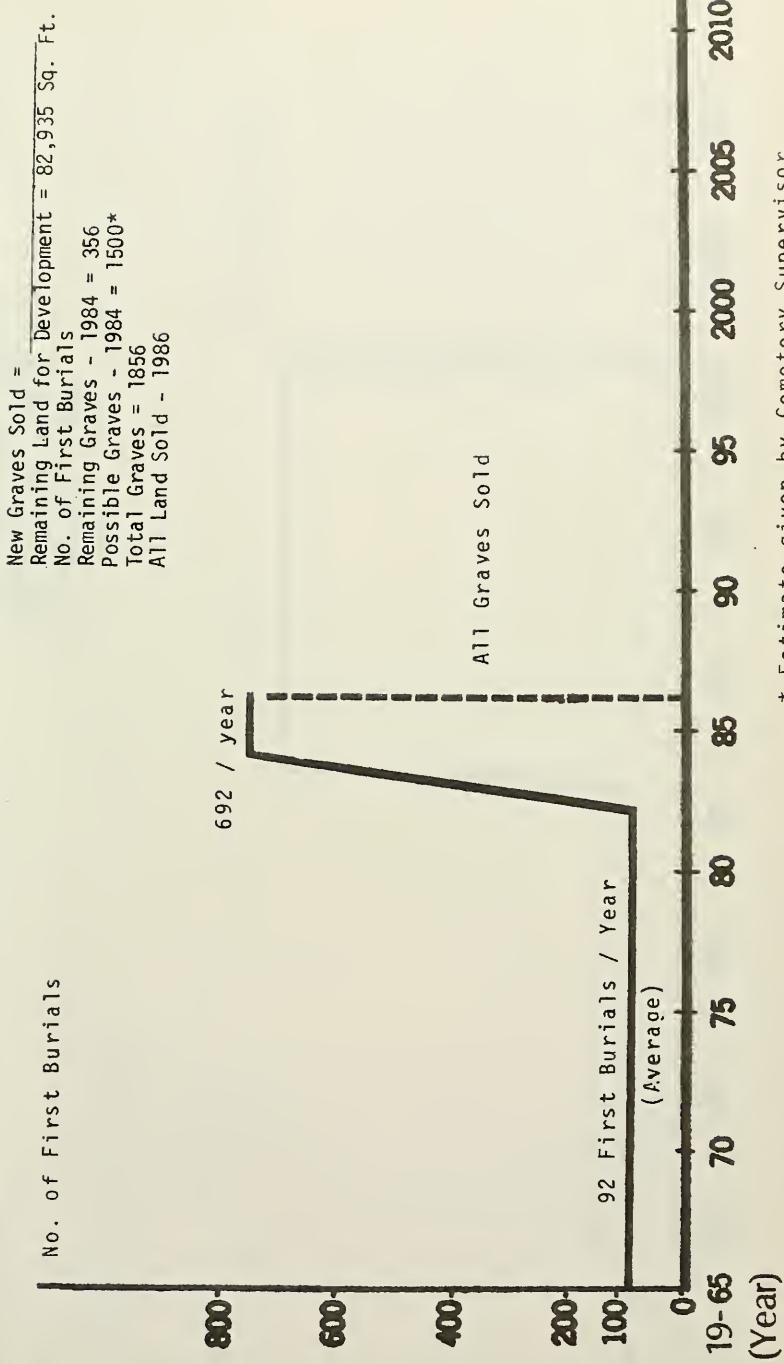
Burial Rates

Previous Number First Burials	New Number First Burials
EVERGREEN 92/Year	692/Year
FAIRVIEW 90/Year	780/Year



GRAPH B

EVERGREEN CEMETERY 100%-100% DIVISION

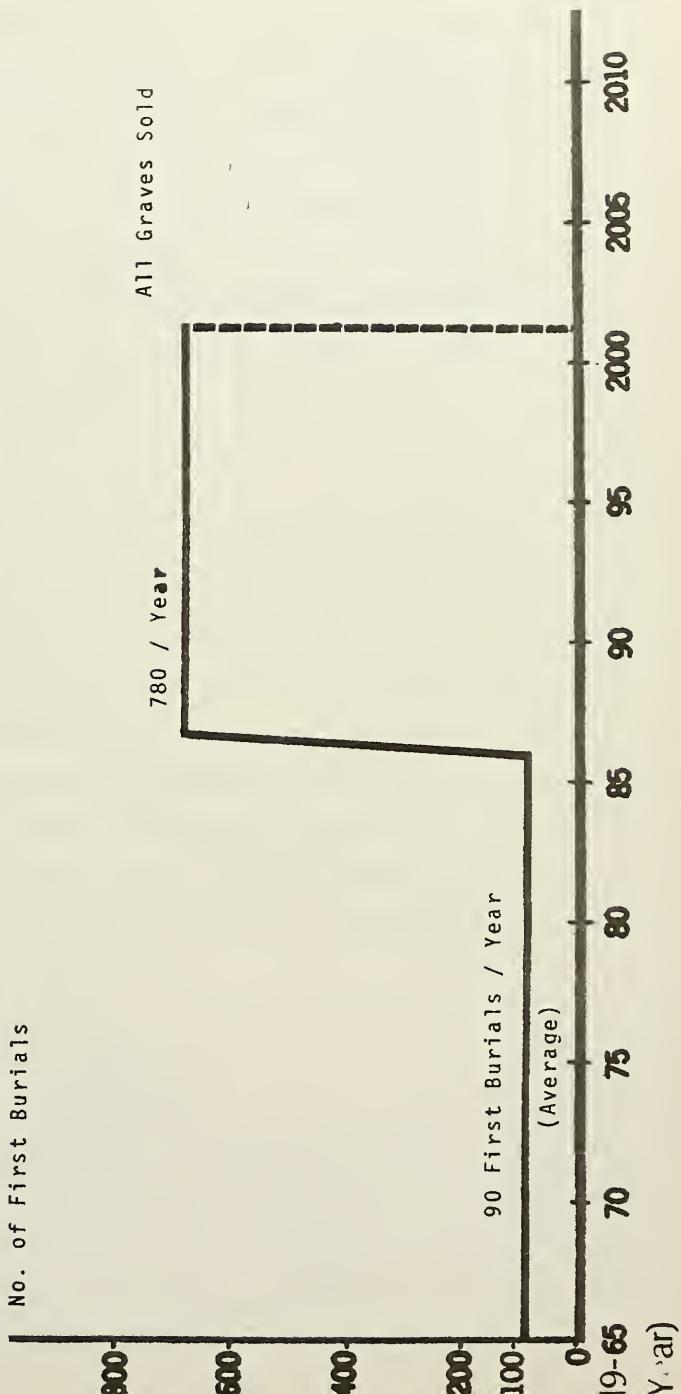


GRAPH B1

FAIRVIEW CEMETERY 100%-100% DIVISION

New Graves Sold = $\frac{\text{Remaining Land for Development} - 357,340 \text{ Sq. Ft.}}{\text{Remaining Graves} - 1987} = 100$
Possible Graves = 12,000
Total Graves = 12,100
All Land Sold = 2001

No. of First Burials





Starting in 1984, Evergreen Cemetery, with a recomputed annual burial rate of 692 first burials per year, and a total of 1856 graves, would have a time allowance of 2.6 years, around 1986. At that point, by 1987, Fairview Cemetery would absorb 100% of all new burials in the city cemeteries. Consequently, at a rate of 780 new burials per year (all of Fairview's and Evergreen's plus Mt. Hope's), using the remaining base of 12,100 graves, Fairview Cemetery would operate at a full capacity for another 15.5 years or until 2001. ²³ Graphs B and B1 represent this distribution.

Plan C: 25% - 75% Division

A third possibility would be to establish a division along a 25-75% split, with 25% at Evergreen and 75% of Mt. Hope's first burials at Fairview. ²⁴ This plan, if implemented, would allow the Cemetery Division a sufficient amount of time at both cemeteries, extending Evergreen's viability for a more substantial period of time. Under this plan, Evergreen would maintain a new rate of 240 first burials per year, while Fairview would increase its share to 540 new burials per year. Again, Fairview Cemetery, due to its higher proportion of burials, would be the recipient of all Veterans' burials. (See Chart C)

CHART C

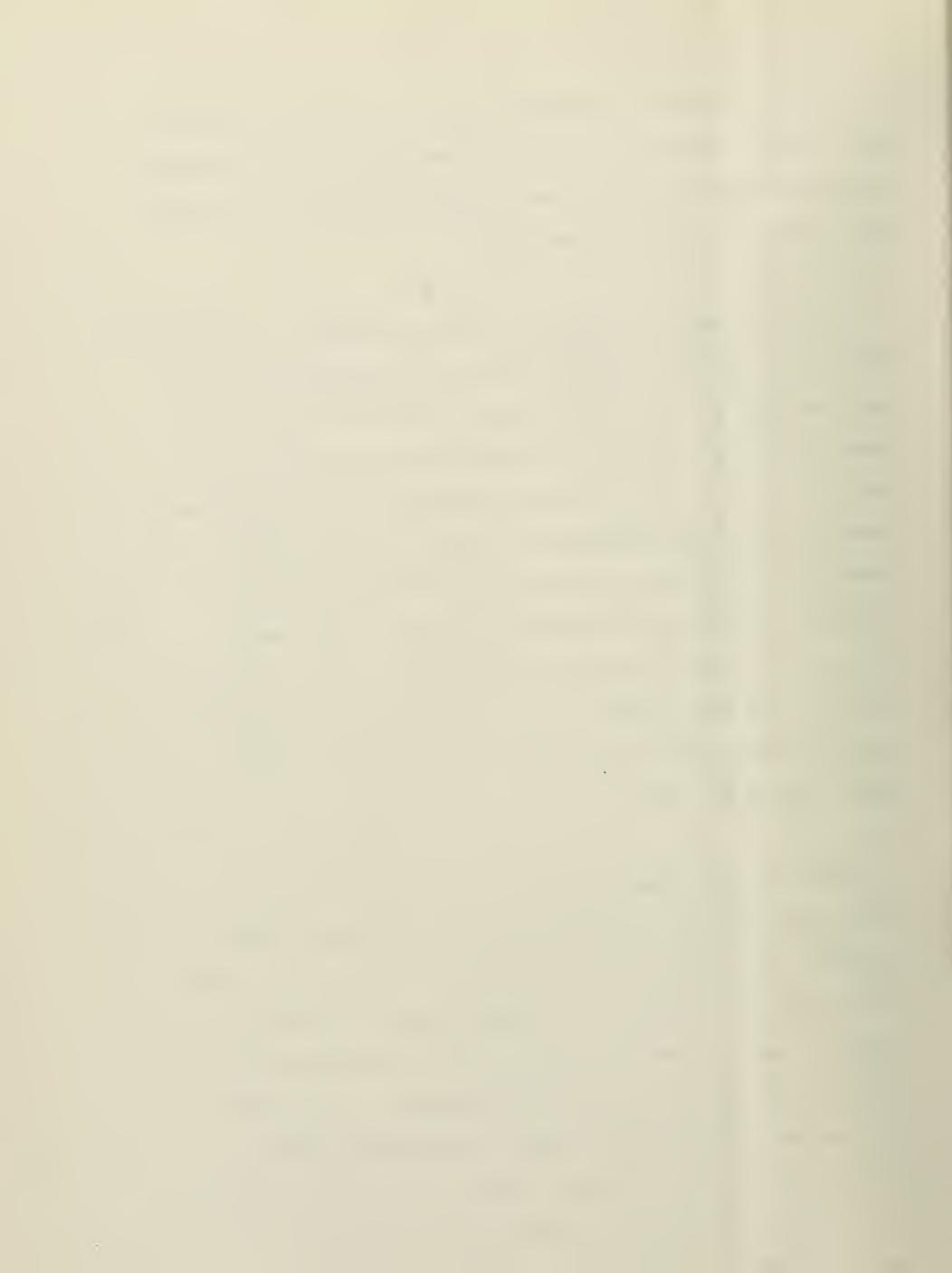
Burial Rates

Previous Number First Burials	New Number First Burials
EVERGREEN	92/Year
FAIRVIEW	540/Year

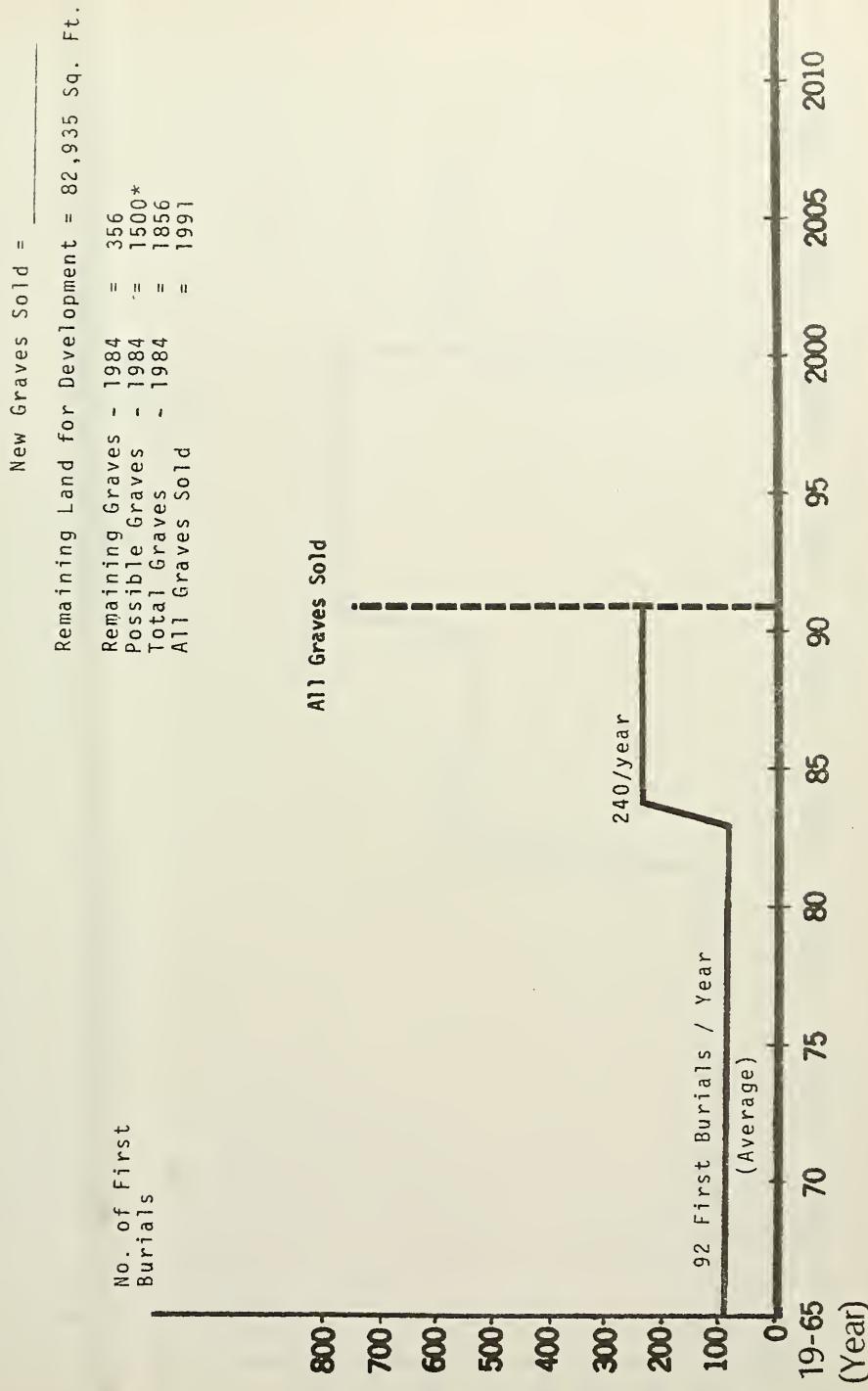
With an increase in its supply of graves by 1500, for a total of 1856 graves, using them at a rate of 240 per year, Evergreen Cemetery would cease selling new graves and would have exhausted its available land within 7.5 years, or around 1991.

Fairview Cemetery's new burial statistics, meanwhile, are dependent upon the overflow from Evergreen. Retaining its own 90 burials per year, supplemented by 75% of Mt. Hope's or 450, the first burial number at Fairview would rise to 540 per year. Operating at this rate for 7.5 years (the corresponding timespan as at Evergreen) the cemetery will have exhausted 4104 new graves by the end of 1991. Subsequently, at the end of this time, it would assume the full complement of burials now assigned to Evergreen. Under these conditions, it could conceivably continue at this rate of 780 new burials for the next 10 years.²⁷ Finally, in or around the year 2002, Fairview also would have depleted its supply of available land. (See Graphs C and C1).

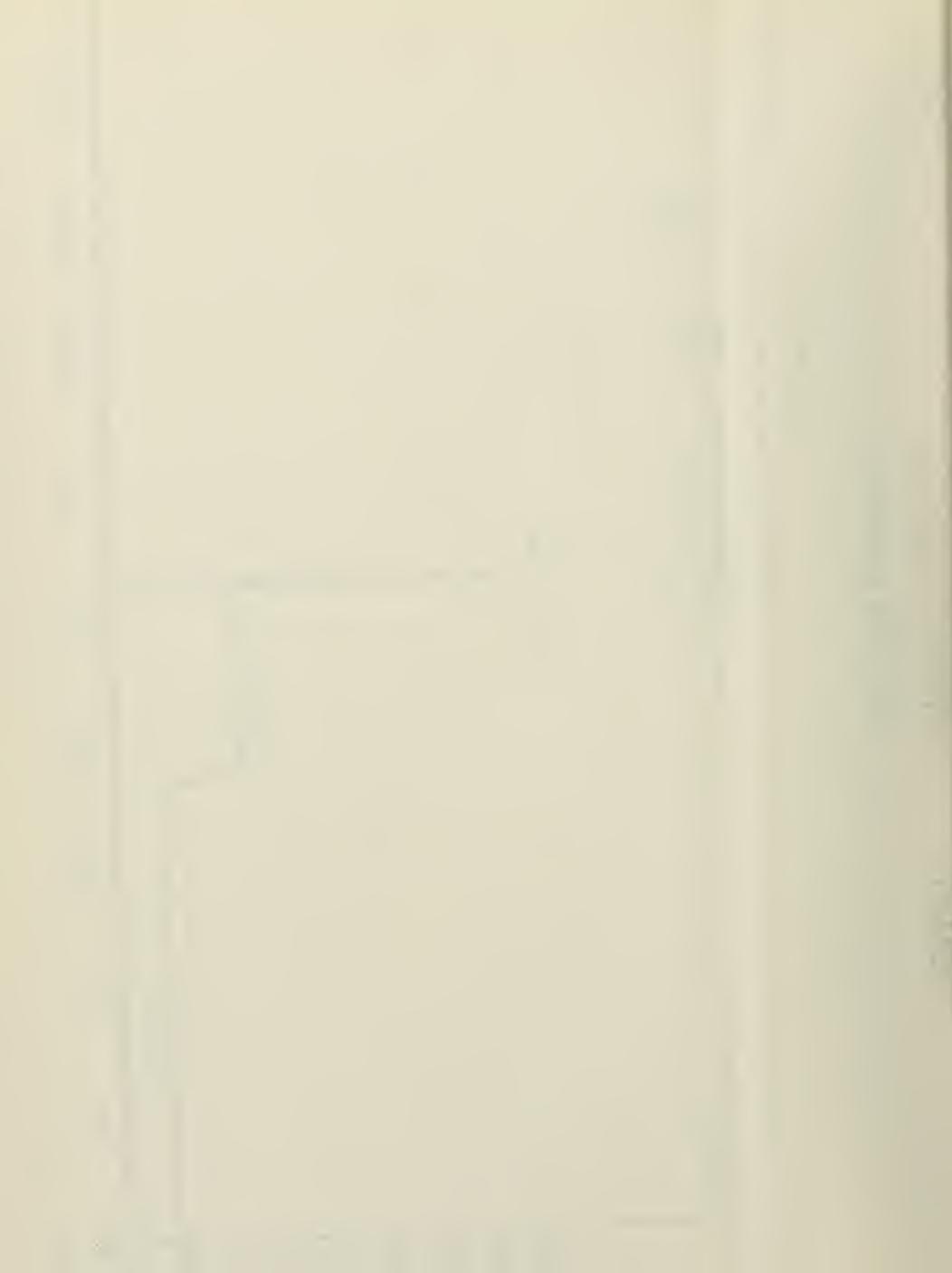
While all of the above conditions are possibilities, and as far as we can estimate, accurate projections of the future state of affairs; it is nevertheless incumbent upon us to point out that they are subject to change depending upon external and internal variables. Again, we would stress that external variables exist in the form of significant or unusual fluctuations in the death rate, personal preferences for burial locations and geographic distributions (in which individuals living in one end of the city are reluctant to be buried in a location at the other end). Internal variables exist primarily in the form of departmental



GRAPH C

EVERGREEN CEMETERY
25%-75% DIVISION

* Estimate given by cemetery supervisor - survey must be done.

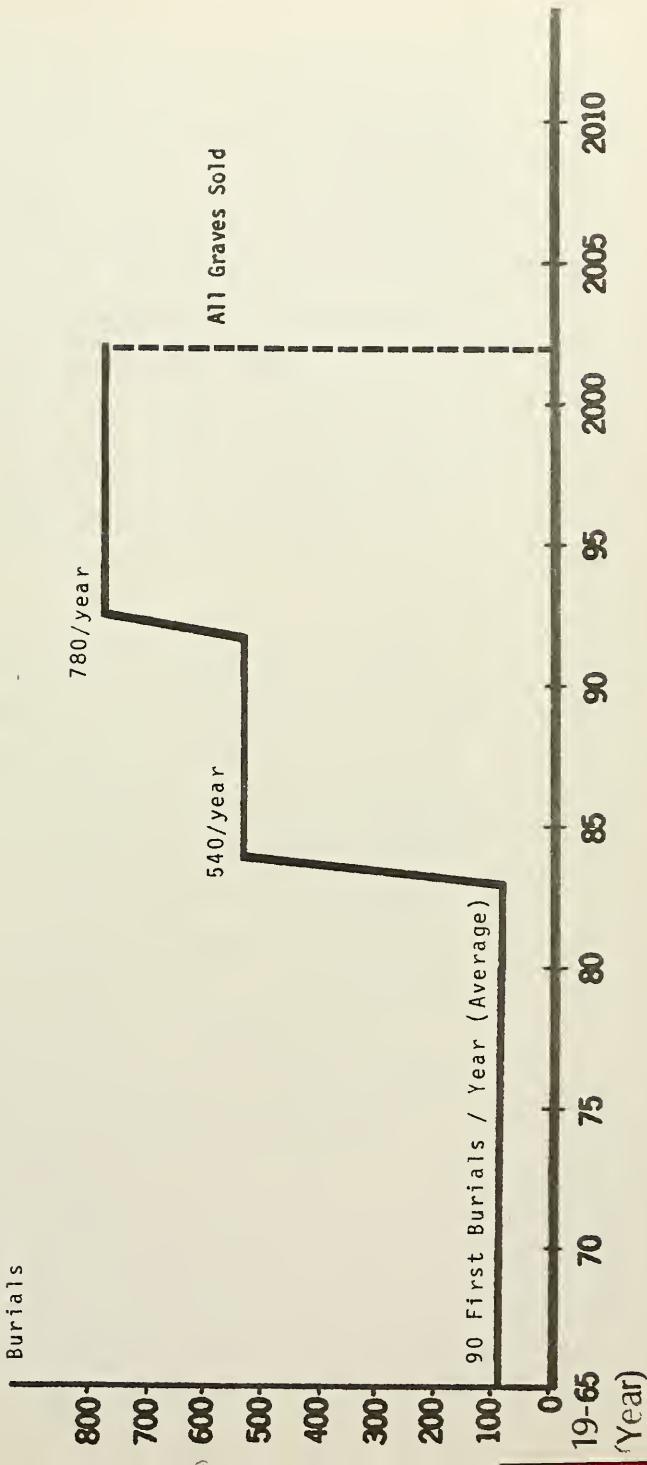


GRAPH CI

FAIRVIEW CEMETERY
25%-75% DIVISION

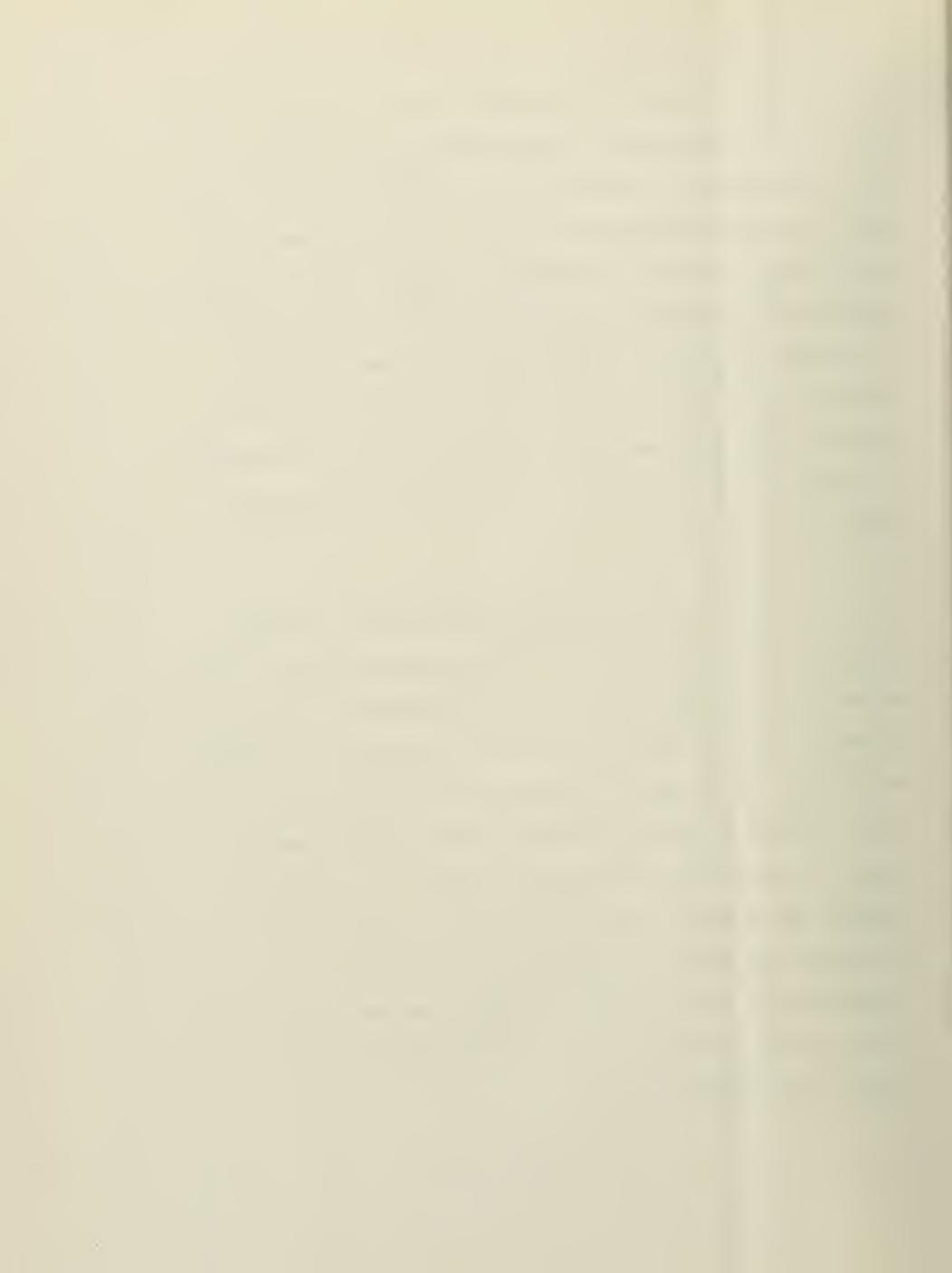
New Graves Sold = Remaining Land for Development = 357,999 Sq. Ft.
Remaining Graves = 370
Possible Graves = 12,000
Total Graves = 12,370
All Land Sold - 2002

No. First Burials



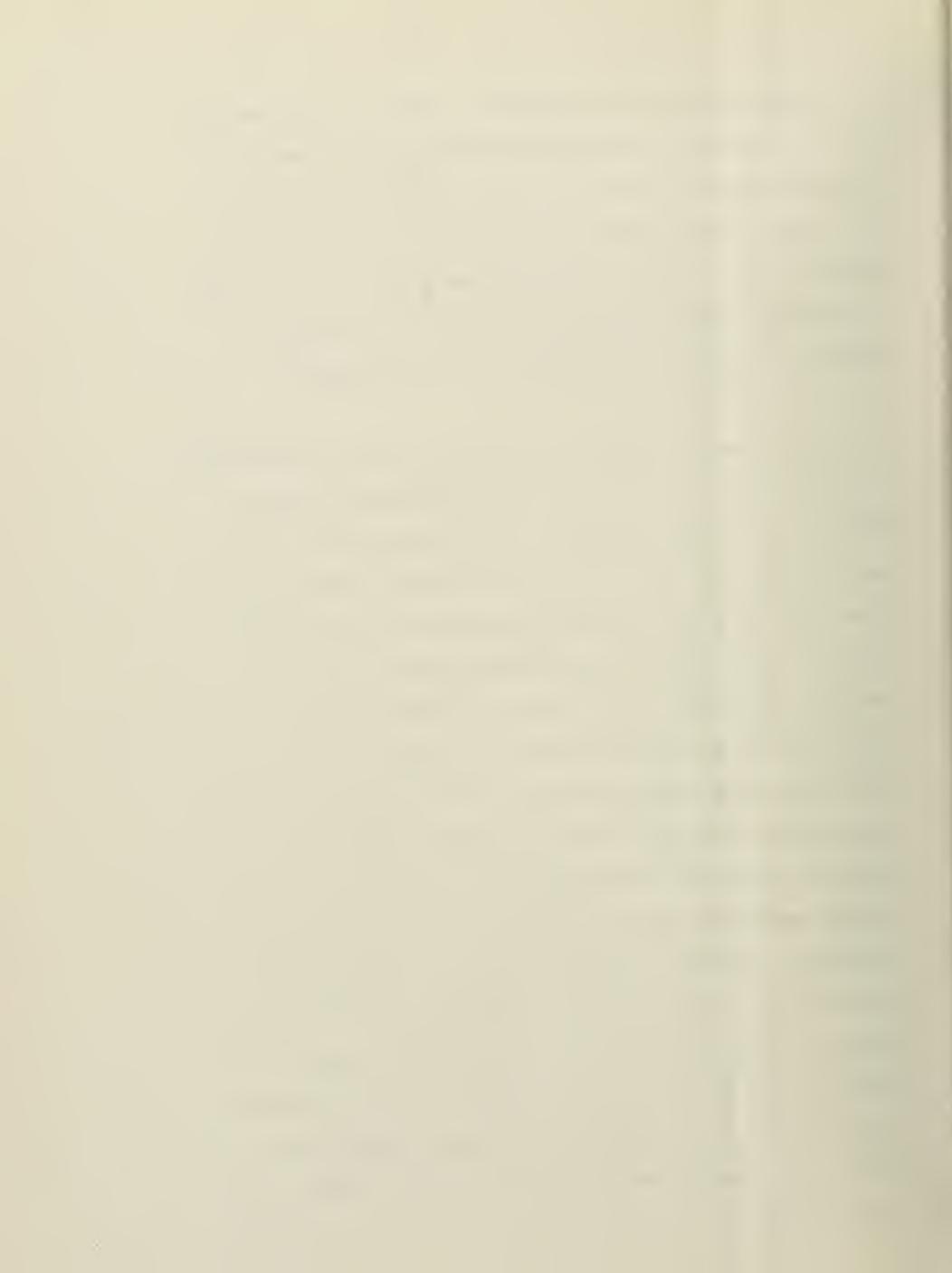
policy decisions, whose shifts are the ultimate determinant in any future action. Furthermore, it becomes more and more apparent that by our internal policy decisions, we can influence outside variables, which would otherwise take control, particularly, desirability of burial areas and geographic distribution. In this sense, the Parks and Recreation Department can regulate and control the growth of its cemeteries. Mindful of the fact that the Cemetery Board is awarded the care and custody of public cemeteries, the Parks and Recreation Department and its Cemetery Division may easily maintain its prerogative of deciding where burials may take place and in what volume.

Of less consequence, but of equal interest in regards to Boston's municipal cemeteries is the approximate amount of time we can expect the cemeteries to be in total operation - not only in terms of first burials, but in terms of secondary and subsequent ones as well. We already can project that the city will be in the burial business for the next 25 years, based upon first burials alone. The projection of future needs, however, will provide a framework within which we can begin to come to a realization of our actual commitment to the community. Furthermore, such information will have a profound effect upon our ability to plan for the future, especially in the operational and financial aspect of the Cemetery Division.



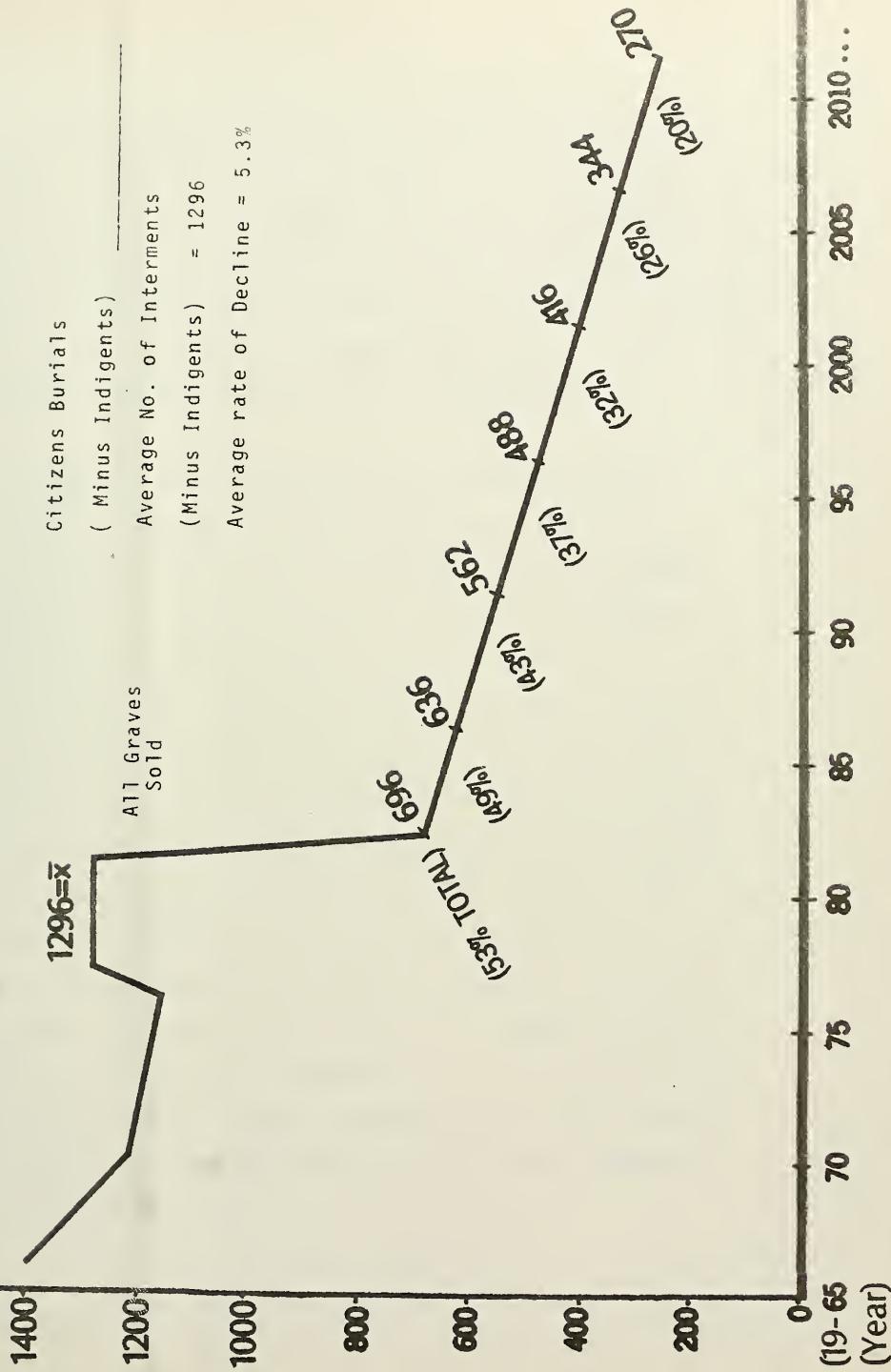
Consequently, we have attempted to assess the time remaining for the cemeteries, the "Life" of the cemeteries, by examining the burial patterns at Mt. Hope. By utilizing a trend analysis of Mt. Hope's burial patterns, particularly the correlation between the time of grave purchase and time interval to the second or subsequent burial, we can begin to project how long the cemetery will operate after the last grave is purchased.

We hypothesized that for any given year a certain percentage of burials would occur in graves purchased during a particular time period - 5-10 years previous; 10-15 years previous; 15-20 years previous and so on. For a two year sample, 1966 and 1976, (plus a control year of 1969) we discovered fairly consistent patterns, strong enough to suggest that for every 5 years, a remaining percentage usually in the area of 10%, of grave spaces would be used up from the total. Naturally, these percentages become increasingly smaller the further the distance from the date of purchase. Thus, by employing a "mirror" projection technique, reversing the order of percentages from the most recent time period, in this case, 1983, to the earliest time period, pre-1900, and then projecting them into the future ²⁸ we can arrive at some approximate termination date. In the case of Mt. Hope, we estimated that in the first 20 years, after the sale of the last grave, roughly 40% of the remaining grave spaces would fill up. From then on the number would drop off dramatically, tapering down to 2% at the end of 60 years. (See Graph D).



MT. HOPE CEMETERY

No. of Burials



From this type of information, we can forecast that Mt. Hope Cemetery will continue to serve the public for at least another 50 years, but with varying degrees of intensity in its operation. These projections tend to support earlier unofficial estimates made by Parks and Recreation and Cemetery Division Administration, familiar with the cemeteries, and also tend to support our own subjective expectations on the "Life" of the cemeteries. ✓

Changes in level of service also has direct implications for level of staffing at Mt. Hope Cemetery, as well as at the other two cemeteries. As burial operations decrease at Mt. Hope, either personnel can be transferred to the other two cemeteries to compensate for their increase in work; or, the workforce can be cut back at a rate which would correspond with the burial rate. Moreover, the level of maintenance, i.e. law and headstone maintenance, etc., must also be affected by the decline of burials. As the function of burial becomes less significant, the maintenance function should assume increasing importance. A cut-off point in burials, an arbitrary figure arrived at by the Parks and Recreation administration would have to be determined. This would occur when the number of men available can no longer be supported by the work functions in the cemeteries. At a further point in time, some thought should be given to the possibility of contracting out maintenance, while keeping a burial crew from another cemetery on a stand-by basis.

we feel that the nature of its findings are not confined to that cemetery alone, but are applicable to Fairview and Evergreen Cemeteries as well. Again, we would suggest the concept of "sensitivity" or the universality of the basis upon which the findings are made. In this sense, then, the rate in general, the male and female death rate, demographic patterns and personal preferences are inherent to society as a whole, producing similar patterns no matter where.

Thus we can deduce comparable patterns for Evergreen and Fairview Cemeteries. They, too, should expect to find the bulk of their second burials occurring within a 15-20 year period after the date of grave purchase with roughly 40% of the graves being completed (or filled) in the first 20 years after the purchase. After the sale of the last grave, the pattern should be the same as at Mt. Hope. Depending upon the usage of existing land in each cemetery with a time span of 10 years at the most at Evergreen and 20 years at Fairview, both cemeteries can anticipate operating at varying levels of roughly 70 years after the sale of the last grave. Both cemeteries would then conceivably operate well into the next century.



Cemetery Division Budget

The Cemetery Division has its own budget. This is the only division in the Parks Department that is self-sustaining in its funding. All other activities in the department are financed with money from the General Revenue Sharing Fund which is derived primarily from tax revenues.

There are two primary sources from which the cemetery budget is drawn. The perpetual care fund is maintained by additions each year of receipts from the sale of cemetery lots with perpetual care. Portions of the fund are used for investment purposes, primarily long-term bonds and blue chip stocks. Any profits derived from interest or dividends are returned to the fund for investment purposes. While there is a general downward trend in the fund itself that can be attributed to a variety of factors such as lower interest rates and inflation, there is certainly no immediate danger of exhausting the fund itself. While the money from this fund is used primarily for maintenance functions, parts of it can be used to purchase equipment.

The Cemetery Trust Fund (Enterprise Fund) is comprised of revenues derived expressly from the sale of burial lots, grave openings, liners etc. Specifically all revenues from the cemeteries, except that money that is used for perpetual care is given to the collector-treasurers office to be placed in the Cemetery Trust Fund. Any or all of this fund can be used for investment purposes. The investment made by the city's trust department do not differ

substantially with those made from the Perpetual Care Fund. Except, investments made with Cemetery Trust funds are usually convertible into cash, with a correspondingly lower interest rate. Chapter 13 Section I of the Mass General Laws state that "the city of Boston", acting by its collector-treasurer, shall set up and maintain as a fund, separate from all other money and accounts of the city, all sums hereafter received by the city in the management of cemeteries owned by it or in its charge, excluding deposits for perpetual care but including proceeds for the sales of lots or rights of burial, charges paid for the opening of graves, the construction of monument foundations, and the use of cemetery facilities and devices, and interest and income from the investment of said fund. Said fund shall be placed at interest or invested by collector-treasurer in conformity with the General Laws. Annually or more often sums may be appropriated out of the said fund pursuant to the provisions stated in the General Laws to defray in whole or in part so much of the expenses of maintaining, improving and embellishing said cemeteries as is not met by the income of deposits for perpetual care.

The council acting as the city's legislative body, must approve funds for the Cemetery Division. The average council appropriation has been 6.6% higher than the actual cemetery expenditures. The years, 1971 through 1976, have been selected for analysis because they are within the range of the 10 year span used for the land use development portion of our study. We have used 5 fiscal periods to determine trends currently existing within our budgetary process. Even though, as the following charts will indicate, there is a great degree of

variation in individual percentages of increase or decreases, we have concentrated on the averages for expenditures, revenues and appropriations for the fiscal periods 1971 through 1976.

It must be stressed that while the information contained herein does outline several trends, it is by no means conclusive. Factors, such as political policy, the economy, and land use development, make it impossible to accurately forecast what the trust funds ultimate fate may be.

Expenditures, Revenues and Appropriations interact directly upon each other. Falling revenues and higher expenditures inevitably force higher appropriations. The following charts contain information pertinent to the fiscal periods between 1971 and 1976.



TOTAL REVENUE

(Fig. A.)

1971 - 1976

Fiscal Year	Revenue	% Of Increase Or Decrease From Previous Year
FY - 1971	\$ 515,221.	-9.8%
FY - 1972	\$ 672,461.	+30.5%
* FY - 1973-74	\$1,083,771.	+61.1%
FY - 1975	\$ 718,639.	-33.6%
FY - 1976	\$ 831,942.	+15.7%

Average Increase Per Year - +10.6%

* Denotes beginning of eighteen month fiscal year.

Figure A (above) represents our total revenues each year from 1971 through 1976. The revenue figures include money from the sale of cemetery plots, costs for openings, perpetual care, liners, etc. It also includes interest from the Enterprise and Perpetual Care funds. The largest increase is 61.16%. This can be attributed to the changeover from a twelve month to an eighteen month fiscal year. Included in this figure (\$1,083,771.) are the revenues from the first six months of 1973.

While yearly increases and decreases in revenue vary greatly, the average increase per year was 10.6%. There has been a decrease in burials, but this has been offset by an increase in prices in 1976. However, if the decrease in burials does not level off in a few years, it is probable that prices would have to be increased again to offset expenditures.

All totals of expenditures for each year are official totals as
stated in the Auditor's Report for the City of Boston for each
1
year .

TOTAL APPROPRIATIONS

Fiscal Year	Appropriations	% Of Increase Or Decrease Of Appropriations
FY - 1971	\$ 663,782.	+4.6%
FY - 1972	\$ 786,903.	+18.5%
* FY - 1973-74	\$1,206,736.	+53.3%
FY - 1975	\$ 854,402.	-29.1%
FY - 1976	\$ 870,679.	+1.9%

Average Increase Per Year - +6.6%

* Denotes beginning of eighteen month fiscal year.

Figure B (above) represents Council appropriations for the years 1971 through 1976. As in Figure A, the amounts vary greatly, and the unusually high percentage increase in the 1973-74 period can again be attributed to the introduction of the eighteen month fiscal year. If we compare these figures with our expenditures for the same period we find that there is a trend towards over-appropriation. In at least four of the six years the Council appropriations were larger than actual expenditures.

The average percent of increase per year is 6.6% over and above any expenditures made for that year. In some years the Cemetery Division did not use all the money appropriated and this money was returned to the Enterprise Fund to be carried on account against usage for the following year. In 1976 we had a \$10,000.00 deficit. This was also carried forward to 1977 and charged against 1977 appropriations. All deficits are made up by sales of stock or bonds belonging to the Trust funds.

The totals of appropriations for each year are official figures from
2
City Council documents .

TOTAL EXPENDITURES

(Fig. C.)

Fiscal Year	Expenditures	Percent Of Increase Or Decrease Over Previous Year
FY - 1971	\$ 678,637.	+20.8%
FY - 1972	\$ 741,998.	+9.3%
* FY - 1973-74	\$1,165,761.	+57.1
FY - 1975	\$ 708,067.	-39.2%
FY - 1976	\$ 880,671.	+24.3%

Average Increase Per Year - +12.1%

* Denotes beginning of eighteen month fiscal year.

Figure C represents our total expenditures for each year from 1971 through 1976, excepting 1973 and 1974 which are taken together because of the beginning of the 18 month fiscal year. As could be expected by the normal trends in any government agency, the expenditures have risen faster than normal 6% inflation rate. This is due primarily to increased personnel costs and rapidly rising pension costs ³.

The exception to the rising costs came in 1975 fiscal period. This was due to a leveling off from the confusion of the previous two years in which the first 6 months of 1973 were added to the 18 month cycle of 1974. Also 1975 was an "austerity year", so designated by the city administration which froze all raises, promotions or hiring. In 1976 the cycle returned to normalcy with a 24% increase over 1975. Also while the 12% increase per year seems inexorable it has been somewhat offset by increasing revenues both in cemetery receipts and interest on investments. Furthermore, any disparity between

revenues and expenditures are covered by council appropriations.

If we compare Figure A and Figure C, expenditures are consistently higher than revenues. However, council appropriations which are consistently higher than expenditures allow the treasurer to sell bonds from the trust funds to make up the difference between the revenues and expenditures.

Figure C1

Average yearly increase in expenditures: 12.06%

Average yearly increase in revenues: 10.63%

1.43% Average Increase
per year¹

Note 1: This figure represents the actual percentage of inflation rate for the past six years over and above any parity that may temporarily result from Council appropriations.

While the charts are not conclusive they suggest that revenues are increasing as expenditures rise, thereby, somewhat keeping pace with each other. Any disparity between revenues and expenditures have been offset by council appropriations. While this trend is undesirable, expenditures have been kept to a minimum. If we look at Figure C beginning with 1971 the percentages of increase in expenditures are steadily increasing, but again this is offset by increasing revenues as seen in Figure A. This interaction between expenditures and appropriations is reflected in the increase in council appropriations for 1976 which is only 1.9%.

While there is no immediate danger that either the Enterprise or Perpetual Care Funds are rapidly becoming depleted, the Parks and Recreation Department must be aware that the Trust Funds have dropped from 7.75 million in 1970 to just below six million in 1977. Furthermore, the correlation between revenues and expenditures in fiscal 1977 was very poor. Total revenues for 1977 were \$374,848.00 while expenditures were \$787,740.00; this means that expenditures increased 110% over and above revenues. This percentage figure was somewhat diminished by the addition of \$146,093.00 reserves from encumberances and \$86,630.00 that had been transferred from fiscal 1976 as being unspent. This still left us with a \$213,894.00 deficit or a 42% net increase of expenditures over revenues. Additional money will have to be appropriated to make up the difference. While the trust funds remain in the millions, a loss over \$200,000.00 is very severe and cannot be sustained for long periods.

Consequently, cemetery revenues should be very closely monitored. Mt. Hope is still our largest revenue producing cemetery. However, the lack of available land for any burials other than veterans, single and double graves have curtailed revenues. And while there is yet insufficient evidence to suggest a permanent drop in revenues, we must be prepared for this eventuality. Serious attention must be given to the formation of an overall cemetery policy. Also, when Mt. Hope closes for first burials, plans should be in effect to smooth the transition to Evergreen and Fairview.

City Council Appropriations 1971 through 1976

Chart 1

Year	Total Appropriation	Personnel Services	Contractual Services	Supplies and Materials	Current Charges & Obligations	Equipment	Structural Improvements	Land and Non-Structural Improvements to Land	Pensions and Annuities
971	663,782	461,924	44,500	32,500	5,950	26,808		76,500	15,600
972	786,903	570,503	45,600	32,300	5,000	41,900		76,000	15,600
973-74	1,206,736	905,436	56,100	42,950	7,425	61,325		105,000	28,500
175	854,402	642,988	40,400	30,575	5,000	45,439		70,000	20,000
76	870,679	646,937	44,700	40,650	4,742	47,650		70,000	16,000

Actual Expenditures

1971 through 1976

Chart 2

Year	Total Expenditure	Contractual Services	Personnel Services	Supplies & Materials	Current Charges & Obligations	Equipment	Land & Non Structural Improvements	Other	State & Boston Retirement System
71	678,635	28,438	463,621	24,333	4,085	25,871	111,687		15,600
72	741,996	35,815	510,813	28,493	4,079	40,648	64,583		57,560
73-74	1,165,761	37,910	842,354	49,049	42,394	90,740	6,381	96,933	
75	708,067	33,971	526,701	36,831	3,867	34,997			71,700
76	880,670	24,946	607,779	46,379	4,813	43,250	66,775		86,729

TOTAL REVENUES

1971 through 1976

Chart 3

Year	1971	1972	1973-74	1975	1976
Total Revenue (Note 1)	515,221	672,461	1,083,771 (Note 2)	718,639	831,942

Note 1 Total Revenue included is interest on investment

Note 2 18 month fiscal year begins

PRIVATE CEMETERIES

A study of the municipal cemeteries of Boston would not be complete without an examination of private cemeteries and their functions relative to those of the city's. A substantial number of private cemeteries are located within the City of Boston and Suffolk County. Of these, a large proportion are owned by religious organizations or cemetery corporations. In fact, there are three other private cemeteries within a two mile radius of Mt. Hope itself: Forest Hills, Old and New Calvary and St. Michael's cemeteries. We feel that it is instrumental in considering private cemeteries, not only in terms of immediate comparisons with the general conditions surrounding public cemeteries, but also in terms of the broader question of the advisability of the City's continuation in the cemetery business.

From a general inspection, private cemeteries appear to be characterized by those qualities usually associated with private enterprise - a high level of services, a well maintained appearance, and correspondingly high prices. The first area to be examined will be prices. Although most private cemeteries are officially non-profit organizations, their fees are, as would be expected of a private concern, much higher than those charges by municipal cemeteries. The following chart, extracted in part from the Massachusetts Cemetery Association Survey of Charges and Wages, 1977, details the fees as well as the labor rates suggested by private cemeteries, in comparison with municipal cemeteries in Boston.

SURVEY OF CHARGES AND WAGES

INTERMENT CHARGES				ADDITIONAL CHARGES				PRICE PER GRAVE		LABOR RATES			
Type Cem. Grave- side	Adult Crem. Int.	Liner	Welfare Int.	Sat., Hol., Extra Deep	Instal. Year	Burial Per Year	Grave With P.C.	Alloc. Per P.C.	Perm. Labor	Temp. Labor	Truck Driver	Back- Hoe Oper.	
M.	110	25	0NS	25	60	MA	0NS	835	260	42%	4.76	3.18	5.02
M.	100	10	DNS	40	60	100	0NS	190	140	36%	4.72	2.50	4.89
P.	230	45	95	180	125	NA	35	25	365	275	50%	4.00	2.75
R.	235	80	75	150	70	NA	NC	0NS	4500	275	11%	6.37	2.50
P.	225	75	DNS	175	70	140	NC	30	700	275	50%	5.83	3.30
R.	225	75	26	112	60	100	0NS	1600	325	60%	6.18	2.40	6.28
P.	175	75	75	150	50	100	25	35	250	250	12%	3.75	2.35
P.	200	60	75	50	125			275	200	33%	4.00	2.75	
R.	205	80	DNS	140	70	100	150	25	315	16%	6.03	2.52	6.03
M.	150	35	35	200	25	50			1900	200	62%	4.16	4.48

*Taken from Massachusetts Cemetery Association Survey of Charges & Wages, 1977

6. Holymore Cemetery Assoc., West Roxbury
7. Gettysburg Cemetery, West Roxbury
8. Cedar Grove Cemetery, Dorchester
9. Boston Catholic Cemetery Assoc., Roslindale
10. City of Boston Cemeteries, Boston

Lak Grove Cemetery, Medford
 Linthrop Cemetery, Winthrop
 Newton Cemetery, Newton
 Archdiocese of Boston, Boston
 West Hills Cemetery, Jamaica Plain

It is evident from the foregoing that private cemetery rates are exceedingly high in comparison to those of the City of Boston. In the case of interment charges for example, the Archdiocese of Boston and Forest Hills cemeteries demand 1.5 times what the City charges. Similarly, fees for graves with perpetual care are also typically higher. The Archdiocese of Boston's Forest Hills rates are 140% as great as Boston's, while the Holyhood Cemetery Association actually charges 160% (or \$325 vs. \$200) what Boston asks for a grave with perpetual care. A useful indicator of how much each cemetery is actually allocating for the maintenance of its graves is the percentage allotment of the grave price for perpetual care. Forest Hills Cemetery and Holyhood Cemetery Association (including Holyhood Cemetery, Chesnut Hill and St. Joseph Cemetery, West Roxbury) allocate 50% and 60% of their grave prices respectively, to perpetual care funds, while Boston distributes as much as 62% of its grave price. In real terms, this works out \$137 for Forest Hills, \$195 for Holyhood and \$125 for Boston. Obviously we receive less for the grave itself and contribute proportionately more to our perpetual care fund for each burial. Another important factor to remember is that with the exception of the Holyhood Cemetery Association and the Archdiocese of Boston² which operate more than one cemetery, all of these perpetual care funds go toward the maintenance of a single cemetery, as opposed to Boston's Perpetual Care Fund which must support 3 active and 16 historical cemeteries. In this context, our allocation for perpetual care appears to shrink even further.

Another factor contributing to higher prices in private cemeteries is the higher wage scale in private industry. In Boston, the base pay for a starting grave digger is approximately \$4.16/hr.; for the private cemeteries already mentioned, the rate runs anywhere from \$3.75 an hour to as much as

\$6.37/hr., with the majority in the upper bracket. Correspondingly high wage rates are paid Truck Drivers (or Heavy Motor Equipment Operators as they are designated in the City). For these positions, the salaries go from \$4.00 - \$6.37/hr. as opposed to Boston's \$4.48/hr. In many instances then, it would appear that labor prices absorb much of the added costs in private cemeteries.

3

Aside from the difference in prices between municipal cemeteries, there also appears to be a difference in level of services between the two. In order to examine this and to simplify matters, we chose one cemetery, Forest Hills Cemetery, as a model for the other private cemeteries. Forest Hills Cemetery, is a non-sectarian, older cemetery in the Jamaica Plain section of Boston. As a connector in the Emerald Necklace park system of Boston, Forest Hills is also a historic cemetery, having been dedicated in 1848. Forest Hills is well known in the Boston area for the large expanse of land and its rustic setting. It is primarily a well-landscaped cemetery; however this is probably due in part to the original concept of the cemetery as a "country" setting, and the fact that it was laid out at a time when the ring of Boston's park system was being designed.

Forest Hills Cemetery, in addition to what could be considered a "pleasant" setting, also offers a variety of services not found in municipal cemeteries. In addition to disposal by burial, it also offers facilities for cremations, as well as a columbarium, a housing for cremated remains. The cemetery, in addition, maintains chapels for services, as well as its own greenhouse.

4

As we have noted, Forest Hills, like other private cemeteries is incorporated as a non-profit organization. Nevertheless, its annual financial reports suggest the closely detailed business aspect of the cemetery. In its 1976 Annual Report, the Board of Directors notes that the Cemetery has been plagued with increased operating costs. This is in spite of the fact that it averages about 700 burials per year, or 37% of Boston's business. For the year 1976, it lists its income as \$588,317, less operating expenses of \$675,501 with a resulting loss \$87,184. This is to be compared with a total revenue of \$831,942 and a total expenditure of \$880,671 for the City of Boston cemeteries. Again, it must be stressed that the operating budget of Boston's Cemetery Division must support three active as well as maintain 16 historical cemeteries. Thus, Forest Hills Cemetery functions with 71% of Boston's revenues and 76% of its costs for 1/3 of Boston's cemetery operations and 37% of its burials.

Furthermore, a prime ingredient in the successful operation of Forest Hills Cemetery is the magnitude of its Perpetual Care Fund. Since 1874, no lots have been sold at Forest Hills without provisions for perpetual care. These precautionary measures have thus produced a Perpetual Care Fund of \$5 million dollars just for this cemetery alone, versus the \$5 million dollars the City of Boston holds in trust for its 3 active and 16 historical cemeteries.⁸ Naturally, the benefits that can be derived from this concentration of revenues for one cemetery cemetery are enormous.

Any comparison with private industry must inevitably be unfair for government agencies. Not only must the government provide services to as wide a range of population as possible, it must also make these services affordable where the necessity for payment exists. Consequently, any comparison with private cemeteries naturally underscores the limitations and

RECOMMENDATIONS AND ALTERNATIVES

We have stressed both at the beginning of this study and throughout it that the Boston Parks and Recreation Department and its Cemetery Division appear to lack any kind of plan, whether short-term or long-term for its cemeteries, individually or in toto. We believe that now is the time to begin planning for our cemeteries, while we still have time left, in order to continue the present operations of our cemeteries, as well as respond to the changing needs of the community. Although this study cannot be considered a planning document in any sense, it has uncovered certain data and identified problem areas which may be addressed in any future comprehensive plans. We further can begin to recommend steps to be taken immediately or in the near future in order to alleviate anticipated problems and finally begin to consider alternative policies which in the long run may be implemented in conjunction with plans for cemetery activities in the city.

We have separated the following recommendations and alternatives into two categories: short or long term recommendations and essentially long-term alternatives. We suggest that the recommendations with few exceptions, can be achieved within a relatively brief period of time - perhaps within 2-3 years. The alternatives, in many instances, are tied to governmental actions on a higher level, state or federal, or may even be dependent upon changing social mores, such that their realization may take years to accomplish. However, innovative or experimental action on our part may serve to accelerate acceptance of some of these procedures.

RECOMMENDATIONS

Our recommendations are strategies which can be implemented within a relatively short time span. They are designed to address current problems or situations, such as level of services, or land use, which will be potentially serious in few years, if no action is taken. These recommendations cover three subject areas, budget and fiscal matters; land use; and planning.

Budget

1. Although there is no immediate danger of collapse of our Trust Funds, several recommendations can be made. a) Hiring should remain static, at least within the regular city payroll. Personnel costs account for nearly 70% of our total expenditures. Moreover, in recent years, pensions and annuities have also grown at an alarming rate. Consequently, in order to minimize spiraling expenditures in relations to these necessities, we should limit personnel to a number concomitant with the amount of work.
- b) Revenues should be closely monitored, perhaps on a quarterly basis. This should include overseeing any interest that will accrue on bonds and stocks from the trust fund. If we don't already have one, we should ask the Treasury Department for a long range statement for interest dates and projections of the amount of money that will be available on these dates. This could be important to any budgetary projections we may care to make.
- c) Finally, it appears that extensive land improvements may soon become a necessity. We would recommend that these begin as soon as possible, so that payments be consistent and as evenly distributed as possible.

2. The City of Boston through its maintenance of its historic cemeteries, protects not only the city's heritage, but that of the country as well. This is especially true of Boston's intown cemeteries, the Old Granary Burial Ground, King's Chapel Burying Ground, Copps Hill Burying Ground, and the Boston Common Burying Ground; as well as some of the older neighborhood cemeteries, such as Phipps, Charlestown; Dorchester North, Dorchester; and Elliot Burying Ground, Roxbury. Their value has been demonstrated, not only in a parochial, city-wide sense, but in a national sense, by their inclusion on the National Register of Historic Places. Consequently, the Parks and Recreation Department and the Landmarks Commission of the City of Boston should also investigate the feasibility of entering our other neighborhood cemeteries into the Historic Register, and securing any pertinent funds for their continued maintenance and protection.

Furthermore, with respect to the intown cemeteries, the City of Boston should continue to press for the inclusion of these cemeteries in the Boston National Historical Park, in concert with other areas on the Freedom Trail now being designated as areas of historic significance.

1. As we discovered through our examination of burials and land use the future of Boston's cemetery operations depends upon development and utilization of the remaining available land within the cemeteries. Prior to this, the Cemetery Division must be fully informed as to the actual amount of land it possesses, and the boundaries which limit its expansion. Needless to say, a land survey at this point is a prerequisite for any future action. Although we have in general a fairly reliable idea of how much land is left, a land survey, especially at Fairview Cemetery would ascertain the exact boundaries and make planning for the cemeteries a more accurate procedure.

2. Naturally, the next recommendation is that the City develop the land it already has. We have previously demonstrated with approximate figures that by preparing for use the land already existing within the confines of the cemeteries, we will have increased our land base by approximately 388,000 sq. ft. and will add nearly 20 years to the life of the cemeteries. Obviously, this course of action is preferable to buying new areas of open space, and seems to be the most reasonable short-term procedure in view of our legal commitments (i.e. versus the prospect of contracting burials out or a state take-over.)

Although the cost figures associated with such a development plan are incalculable at this point, due to the time lag and potential increase in costs, it would seem probable that in the long run such costs would return at least equitable total revenues (both in terms of receipts and investment revenues). At the end of the time that it takes to develop this land, we could also be preparing citizens for the event-

uality that available space will be drying up and that the City will be unable to continue first burials, except in the case of indigents.

Development of cemetery land, then, is the fulcrum upon which this study and the future of Boston's cemeteries rests. The time factor in this is also of importance. All too soon we will be faced with space shortages unless immediate action is taken. Whether we accomplish this reclamation incrementally or at once, is not relevant at this moment, but that we do accomplish it.

3. Lastly, in regard to actual physical employment of cemetery land, it becomes more and more apparent that we require the services of professional landscape architects, who specialize in cemetery design. Not only can landscape architects provide improved aesthetic quality to our cemeteries, those dealing in cemetery design can impart an expertise in dealing with the more efficient utilization of space, and alternative structures for burials which may be considered (see Illustration I and II). Furthermore, by acquiring the services of a cemetery landscape architect on a consulting basis, we can also begin to provide a sense of professionalism which past cemetery development appears to have lacked.

4. One short term immediate step which the City as a whole could take to conserve valuable land would be to terminate its present policy of providing free graves to Veterans. Although the City is obligated by state law to bury indigent veterans, it is only by City Council Order that we now provide free graves to veterans. (See Section II - Burial Regulations). Thus, the city could possibly save around 230 graves spaces per year, and increase its revenues by around \$50,000 per year. if we ceased burying veterans. Such a change in policy could be only be achieved through City Council action, which might be obtained if the alternative

open to us in this instance were considered.

The most logical and most acceptable alternative in the context of Veteran's burials would be to direct all veteran's burials to the National Cemetery at Otis Air Force Base, Cape Cod, which is scheduled to open within the next 2 years. According to the official releases by the U.S. Veterans Administration, which will oversee the project, a tract of 750 acres of land at Otis ² has been deeded to the V.A. for this purpose.

Eligibility requirements include service in the Spanish-American War, World Wars I and II, the Korean Conflict, Vietnam Era, Peacetime service under the condition of honorable discharge. Also included are reservists who die while on active duty. The benefits of the National Cemetery are many: not only can veterans of the afore-mentioned periods be buried, but also an eligible veteran's wife, husband, minor child, and under certain circumstances, unmarried adult child. Further benefits, aside from the free grave and burial include, a headstone or grave marker provided ³ without charge. Also available at the site will be chapels for services, as well as accommodations for families.

The National Cemetery is scheduled to be developed in phases. Phase I includes the initial planning of the cemetery buildings, as well as the development of 15 acres of planned gravesites for a total of 8500 graves. Presently, the plans are under review by the General Services Administra-⁴ tion, and once approved construction will begin, perhaps later in 1978.

We feel that burial in the National Cemetery is a workable and desirable alternative for veterans. Not only are the services provided at a higher level than in Boston, but they are totally without charge. Furthermore, shifts in veterans burials will free needed space for other citizens. We would therefore suggest that the Parks and Recreation Department consider further investigation of the Otis Air Force Base option.

Planning

The City of Boston has to have some idea of where it is going with its cemeteries. It is not sufficient to exist on a day to day basis, and suddenly be faced with a major shortage. Also the city has to develop a definite concept of itself in relation to cemeteries, whether it will conduct itself in the semi-professional, almost casual manner with which it has approached its cemetery functions in the past, or whether it wishes to begin a concentrated businesslike approach to this endeavor. In order to be able to function at a fairly reasonable level in the future, the Parks and Recreation Department administration, along with its Cemetery Division, must develop a comprehensive plan, ideally for the three cemeteries individually and for the cemeteries as a whole. Such a plan would:

- a) demand that information regarding the cemeteries, i.e. burial rates, lots remaining, etc., be accumulated on a continuing basis, and that any changes or significant fluctuations be monitored.
- b) give some sort of coherence to the variety of actions taken in the cemeteries. Instead of conducting our operations spontaneously, each change or innovation carried out would be planned for overall in relation to the whole.
- c) provide us with a perspective in which we can plan for future needs.

Planning can also define for us more clearly what we wish our role to be in regards to the cemeteries; it can distinguish our limits or establish our expansion for the future.

ALTERNATIVES

The alternatives presented here are basically long range plans or options which may be implemented to accomodate our changing needs. These suggestions are long range in the sense that it would take either a considerable time to achieve them in a practical or political sense, or that they would require acceptance based upon changing social custom. As opposed to the recommendations, they are differing courses of action which may be explored, and which may depart sometimes dramatically from accepted or conventional procedures. Like the recommendations, however, these alternatives may be separated in two distinct kinds: 1) dealing with alternative administrative policy and 2) dealing with alternative land use and design concepts.

The first group of alternatives are administrative policy options. They will be considered in a somewhat hierarchical fashion.

1. Even though we will be able to fulfill our obligations for the next twenty years in terms of first burials, it is not too early to begin to search for viable alternatives for the problem of cemetery space. The first alternative then, is that we bury only indigent persons. The City of Boston is obligated under Mass. General Law only to provide for the burial of its poor; this does not necessarily entail maintaining burial grounds for them. But because of custom, we have always buried them in city cemeteries, all too often under less than desirable circumstances. On the other hand, the City is not required to bury all of its citizens, but rather extends this courtesy to them. We have already seen that the City has a first burial rate of private and Veterans burials of about 780 per

year or 23,400 sq. ft. per year. If we eliminate these private burials, and maintained our present indigent rate of roughly 100 burials per year, we could continue indefinitely. Such a decision naturally has many limitations, the first being that it would greatly conflict with the public's image of the city as provider of all necessary services. Secondly, allowing only indigent burials would severly reduce the cash amounts flowing into the General and Perpetual Care Funds, since we would only be receiving nominal sums from the Welfare Dept. for burials. The other side of the coin, however, would be to allow indigents to be buried with some kind of dignity, instead of crowding them into back areas, as is currently the practice.

2. A second alternative, related to the first, would be to contract out indigent burials only. Again, the City has only to provide for the indigent, and within the city proper there are a number of Catholic and private cemeteries which could accomodate them. This alternative is already practiced in the City of Newton, which does not maintain a public cemetery, but does contract with the private, non-sectarian Newton Cemetery. At a welfare burial fee of approximately \$175.00 (plus the cost of marker), the going price for a Welfare burial in private cemeteries, times the average number of welfare burials per year, approximately 100 for the past few years, the City could perhaps find itself in the position of paying a minumum of \$17,500, a year and a maximum of \$25,000 per year for its indigent burials. Obviously such an option implies vast changes in city policy. Effectively, we would cease being in the burial business once all land was consumed and/or once all second burials were completed.

3. A third alternative which would relieve the city of the necessity of continuing its burial functions, at least as far as mandatory indigent burials are concerned, would be to arrange for the state to assume the burden of local interments by instituting state cemeteries, an especially attractive alternative where the available urban land base is evaporating. Although bills to this effect have been before the state legislature, none have up to now, survived committee. (Establishment of state cemeteries has been accepted, however, in several other states, most recently in Connecticut and Arizona.) Creating state cemeteries would seem a logical step, in view of the land shortages many cities and towns face, and also in consideration of its fulfillment of state requirements as far as welfare recipients are concerned. Nonetheless, the state as yet has been unwilling to undertake this responsibility. There are a variety of reasons for this. First, the state is reluctant to impinge upon certain areas of local control. Secondly, it may be reluctant to incur any further expenses that would underlie development of these cemeteries. Lastly, and perhaps most importantly, a state cemetery would require the appropriation of local land - town or city owned - by the state. Not only is the state unlikely to venture such an attempt, it would also, in theory, meet with much resistance on the part of the towns and cities who jealously guard their own land. Thus, state cemeteries while logical and perhaps necessary innovations, would be the most politically inexpedient of all three alternatives.

The other category of alternatives involves different or innovative land use design and/or burial techniques in order to combat space problems.

The first of these are alternative methods of preparation and manner of burial.

1. Cremation is a quick, inexpensive solution to the problem of vanishing space. "Cremation is not disposition; it is only a method for preparing the remains for memorialization. They are still human remains and should be placed in a dedicated place such as a columbarium, mas-⁵ oleum or other place where they will receive continuing care." This quote accurately describes the feeling of most cemetarians towards cremation. While there is an increasing tendency on the part of the general public to accept cremation as a form of burial, public attitudes have not evolved to the point where this burial mode could seriously be considered. Nevertheless, since the Catholic Church which previously opposed cremation, now allows it, it would be worthwhile to investigate the implication of encouraging disposal by cremation in Boston's cemeteries.

2. Vertical Interment Areas: The concept of interment in a vertical structure is virtually alien to the New England area, but is growing in popularity in other sections of the country and the world. However the kind of structures we are describing here are not the traditional family masoleums, but rather "high-rise" buildings, that could house bodies in vaults. (This type of structure has been attempted in Italy and Brazil,⁶ for example.) Such a facility could be modified and adapted to our needs, so as not to conflict too greatly with local customs and expectations. St. Michael's Cemetery in Roslindale, for example, has just erected such a structure. The one drawback to this alternative would be its costs, which might be prohibitive for a municipal cemetery. But if full utility is to be extracted from our land, then this style of building may very well serve our needs.

3. The last two alternatives involve innovative ideas as far as place-

ment and utilization/development of cemeteries is concerned. Although cemeteries are usually isolated entities, developed far from the crowd in outlying regions, the constraints of space have encouraged ideas regarding "intergrated use" or extracting a variety of functions from an area of land. Initially such an approach would provide new burial areas, should existing ones be depleted. For example, cemetery land could be found in land parcels near airport highways or freeways would serve the joint purpose of providing burial spaces, while at the same time breaking the monotonous expansion of concrete into adjacent neighborhoods.⁷

Lastly, we can obtain integrated uses by rehabilitating abandoned cemeteries into memorial parks. In congested areas of the city, especially where population and housing density obiliterate open space, the benefits derived from memorial parks are enormous. In a well designed area, they can continue the function in this plan, the cemetery land is "returned" to the community for use in passive recreation. The prototype for this kind of renovation is the Pulaski, Tennessee Project. Funded by HUD, the City of Pulaski undertook a major renovation of an abandoned, inactive cemetery.⁸ This and other alternatives uses for cemeteries should be considered as we progress in time.

CITY OF BOSTON



HERBERT P. GLEASON
Corporation Counsel

LAW DEPARTMENT

CITY HALL
BOSTON, MASSACHUSETTS 02201
722-4100

August 25, 1975

Mr. Anthony F. Forgione, Commissioner
Parks and Recreation Department
City Hall
Boston, Massachusetts

Re: Indigent Burial

ATTENTION: Mr. John Ruck

Dear Mr. Ruck:

It seems clear that the City has the obligation to provide a suitable portion of its burial grounds for use by its inhabitants as a free burial ground. See G.L. c. 114, §15 and City of Boston Code, Statutes, Title 7, section 107. The proper body to administer all burial grounds is the Parks and Recreation Department. City of Boston Code, Statutes, Title 7, section 107. Pursuant to this end the City has the statutory authorization to "purchase and hold land, for a public cemetery, in any town in this commonwealth" provided the permission of the town in which the cemetery is to be located is obtained. City of Boston Code, Statutes, Title 3, Section 5. G.L. c. 114, §15 also provides that an appropriation of money for cemetery purposes is within the scope of municipal powers but does not mention whether or not such an appropriation can be used for the purchase of cemetery land, rather it simply refers to the upkeep of the cemetery. However, the language of CBC St. 3, §5 wherein it refers to purchase would seem to sanction such a course of action. G.L. c. 114, §11 provides that when there is a need for more cemetery space a town can make application to the county commissioners for the power of eminent domain to take land for this public purpose. Said application is to be followed by notice and hearing for the benefit of the property owner to register his objections. See, G.L. c. 114, §11-14. These proceedings are not available as against the State.

Since G.L. c. 114, §10 requires the City to provide "one or more suitable places for the interment of persons dying within its limits" but the City finds itself with no more space for indigent burials, it is incumbent on the Parks and Recreation Department to come up with a speedy solution to the problem. The following

Mr. Anthony F. Forcione, Commissioner
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are a list of possible alternatives:

1. Utilize all available space in Mt. Hope Cemetery for indigent burials, regardless of the location. When all space is used up then the City will be out of the cemetery business except for indigent burials, for which the City can acquire land in a permanent location taking into account projected future needs.
2. Acquire by eminent domain or otherwise a suitable portion of land, preferably not too far distant from Mt. Hope Cemetery, for the burial of the indigent.
3. Negotiate with the State for the purchase or use of the land in the Mattapan State Hospital for the burial of indigent persons.
4. Negotiate with a neighboring municipality, or a private cemetery for the purchase or use of land for the burial of the indigent.

The resolution of this problem is of pressing concern to the State Department of Public Welfare as well as the City. In addition to the public health aspects of the problem there is the very real mental anguish which will be suffered by the bereaved families of deceased indigents. Parks and Recreation Department should arrange for the acquisition of land posthaste, if that is the desired alternative. Perhaps a meeting with the Real Property Department and/or the Public Facilities Departments can be of value in the resolution of this problem.

Please do not hesitate to contact me if any further difficulties arise in this matter, and please inform me of any developments.

Sincerely yours,

Kenneth J. Mickiewicz
Assistant Corporation Counsel

APPENDIX B.

MASSACHUSETTS CEMETERY ASSOCIATION

SURVEY OF CHARGES AND WAGES

SEPTEMBER 1, 1977

INTERMENT CHARGES										NUMBER BURIAL PER YEAR	FOUNDATION CHARGES		PRICE PER GRAVE		LABOR RATES			
ADULT GRAVE- SIZE	ADULT CHAPEL	CREM. INT.	LINER	WEL- FARE INT.	SAT.	HOLI- DAY	TENT	EXTRA DEEP	INSTALL VAVLT		SQUARE FOOT	CUBIC FOOT	GRAVE WITH P.C.	ALLOC. TO P.C.	PERM. LABOR	TEMP. LABOR	TRUCK DRIVER	BACK- HOE OPER.
145.			75.	145.	50.	50.				35			150.	50%				
105.	DNS	35.	DNS	50.	45.	NA	DNS	25.	DNS	65	3.20	100.	3.20	1.50	2.25	4.25	4.75	
110.	DNS	35.	60.	115.	50.	100.	50.	50.	NC	250	15.00	200.	50%	3.00	2.30	3.50	4.00	
110.	DNS	25.	65.	150.*	30.	50.	DNS	ONS	NC	50	10.00	165.	50%	3.00	2.75			
110.	DNS	80.				25.	NA			20		150.	50%					
122.	DNS	25.	60.	100.	NC	60.	DNS	25.	DNS	500	2.15	170.	5.15	4.10	2.75			
130.	DNS	45.	55.	125.*	100.	NA	DNS	NC	DNS	500	3.20	160.	50.	4.39	2.55	4.73	4.91	
130.	DNS	70.	120.	100.	40.	40.	DNS	35.		100		150.	50%	3.95	4.07	4.62		
130.	DNS	50.	75.	125.	50.	50.	30.	150.	40.	350	2.15	170.	5.25	4.00	3.00	3.25	4.00	
125.	DNS	30.	75.	125.	50.	50.	DNS	25.	25.	400	2.15	170.	5.00	4.10	2.30	4.10	4.35	
175.	DNS	25.	65.	125.*	NA	NC	NA	50.	25.	700	2.15	170.	5.00	4.15	3.00	4.15	4.15	
125.	DNS	275.	90.	95.	225.*	80.	80.	35.	40.	46.	450.	34.56	495.	30%	4.20	2.30	5.65	
75.	DNS	25.	DNS	25.	NA	DNS	NA	DNS	NA	30	10.00	100.	40%	3.89	3.29	4.61	4.61	
185.	DNS	75.	110.	185.	100.	200.	JA	50.	15.	50		220.	50%	3.35	2.30	4.00		
100.	DNS	30.	70.	DNS	60.	60.	DNS	NA	NC	250	20.00	110.	50%	4.13	2.75	4.67	5.43	
75.	DJS	20.	65.	75.	65.	NA	DNS	NA	DNS	150	14.40	150.	50%	3.79	2.50	4.58	4.65	
100.	DNS	100.	25.	DNS	100.	NC	IC	DNS	NA	DNS	60	12.00	125.	1.0%	4.66			
70.	90.	25.	55.	70.	45.	45.	DNS	NA	NC	160	20.00	125.	32%	4.63	3.55	5.30	5.30	
150.	DNS	35.	60.	150.	50.	NA	DNS	NA	DNS	20	20.00	225.	75%	3.50				
155.	190.	40.	85.	165.	50.	NA	40.	50.		20	150.	30%	4.76	3.00	4.76	5.77		
120.	DNS	40.	DNS	120.	90.	NA	DNS	50.	DNS	100	20.00	120.	67%	2.50	3.50	5.70		
200.	DNS	50.	75.	DNS	75.	NA	DNS	NA	DNS	90	20.00	200.	45%	3.88	2.30	3.35	5.05	
240.	DNS	75.	90.	DNS	60.	60.	50.	50.	NA	50	2.00	360.	1.0%	3.00	2.30	4.00	4.17	
170.	170.	35.	DNS	95.	NC	NC	DNS	NA	DNS	600	25.00	225.	50%	4.76	4.69	5.13	5.17	
150.	DJS	35.	70.	150.	35.	NA	35.	NA	15.	75	15.00	150.	50%	3.45	2.50			
125.	DNS	125.	30.	DNS	125.	50.	50.	DNS	NA	DNS	100	1.50	170.	25%	3.50	2.75		
180.	180.	60.	73.	138.*	NC	NA	NC	NA	DNS	450	15.00	200.	10%	4.00	3.00	4.95	5.30	
125.	DNS	20.	DNS	125.	20.	20.	DJS	NA	DNS	30		125.	50%	3.50	3.25			
175.	DNS	50.	75.	125.	NA	NC	NA	DNS	NA	DNS	310		190.	7%	4.25	3.20	4.25	4.25
175.	DNS	25.	DNS	75.	NC	NC	DNS	NA	DNS	35	12.50	75.	33%	3.84	2.92	3.84		
115.	DNS	40.	88.	165.	45.	45.	DJS	NA	NC	185.		180.	50%	3.75	2.30	3.7	4.05	
150.	DJS	35.	65.	150.*	NA	NC	50.	DNS	NA	DNS	850	18.00	160.	30%	3.80	3.30	4.61	4.40
175.	DJS	45.	75.	100.	25.	NA	NC	NA	NC	100		250.	50%	4.00	2.75	4.25		
125.	DNS	20.	DNS	NC	NC	NC	DNS	NA	DNS	37	12.00	190.	30%	4.60	2.30	2.34		
175.	DNS	35.	90.	150.	50.	60.	25.	25.	NA	DNS	375	20.00	190.	30%	4.20	3.50	4.20	4.25
80.	DJS	20.	DNS	80.	55.	80.	80.	DNS	NA	DNS	125.		165.	50%	5.25	5.25		
85.	IC	25.	DNS	20.	55.	25.	25.	NA	DNS	190.	14.00	175.	57%	4.29	3.88	4.64	5.33	
100.	DNS	25.	DNS	50.	50.	50.	30.	NA	DNS	125.	10.00	90.	7%	4.08	3.00	5.55		
175.	DNS	195.	90.	90.	50.	35.	50.	35.	NA	DNS	750	20.00	150.	27%	5.00	2.50	5.00	5.10
125.	DNS	25.	55.	180.	50.	50.	25.	NA	DNS	160	25.00	250.	50%	4.72	3.34	4.88	5.14	
275.	DNS	275.	60.	95.	205.	70.	NA	50.	50.	40.	500.	40.00	450.	55%	5.75	3.25	5.90	6.21
275.	DNS	50.	100.	225.	75.	NA	50.	225.	25.	1100.	40.00	400.	50%	6.75	3.25	6.75	7.11	
60.	DNS	10.	55.	55.	65.	65.	15.	15.	NA	DNS	250	30.00	100.	5%	4.97	3.75	5.08	5.22
75.	DJS	120.	DNS	75.	37.	37.	DNS	DNS	DNS	100	15.00	85.	5%	5.43	5.43			
125.	DNS	150.	DJS	50.	50.	50.	NA	DNS	NA	DNS	75	15.00	150.	75%	3.00			
120.	DNS	35.	DNS	50.	NA	NA	DNS	NA	DNS	75	10.00	75.	60%	4.50	3.00		5.00	
135.	135.	35.	50.	135.	65.	65.	40.	NA	NC	130	15.00	192.	45%	3.25				
135.	DNS	23.	124.	124.	15.	15.	DNS	NA	DNS	215	40.00	225.	22%	5.52	4.50	6.11	6.11	
100.	DNS	135.	25.	DNS	100.	50.	50.	DNS	NA	DNS	450	30.00	180.	50%	4.62	3.60	4.49	5.58
110.	DNS	145.	40.	DNS	75.	NA	DNS	120.	DNS	125.	25.00	175.	50%	5.40	2.32	5.40		
125.	DNS	145.	40.	DNS	60.	60.	NA	DNS	NA	DNS	650	15.00	300.	27%	4.51	4.22	4.65	5.41
120.	DNS	50.	70.	DNS	70.	70.	DNS	NA	DNS	100	1.00	160.	67%	5.31	2.75			
150.	DNS	15.	75.	75.	75.	75.	DNS	75.	DNS	100	1.00	255.	33%	4.80	4.19	5.81		
75.	DNS	25.	25.	125.	25.	25.	DNS	NA	DNS	32	5.00	100.	75%	5.34	5.71			
200.	DNS	ONS	ONS	50.	NC	NC	DNS	NA	NC	250	10%	300.	50%	5.00	15.00			
165.	DNS	50.	55.	123.*	50.	50.	50.	NA	NA	DNS	200	28.00	200.	75%	4.97	3.52	5.19	5.43
60.	DNS	10.	15.	DNS	60.	15.	15.	DNS	15.	DNS	275.	7.00	127.	30%	5.01	4.43	5.16	6.27
65.	DJS	20.	DNS	65.	15.	15.	DNS	NC	DNS	250	16.00	90.	50%	4.75			5.00	
80.	DJS	25.	DNS	20.	20.	20.	NC	NA	DNS	45	6.00	100.	50%	5.13	2.32			
140.	DJS	40.	45.	DNS	50.	75.	NA	DNS	120.	DNS	125.	25.00	175.	50%	5.40	5.80		
125.	DNS	35.	DNS	125.	30.	30.	DNS	NA	DNS	25	12.00	125.	60%	3.65	2.75			
110.	DJS	25.	DNS	25.	60.	60.	NA	DNS	NC	DNS	835	6.00	260.	42%	4.76	3.18	5.02	5.50
100.	DNS	10.	ONS	NC	40.	60.	25.	100.	DNS	190	2.50	140.	36%	4.72	2.50	4.89		
230.	DNS	45.	95.	180.	125.	NA	40.	35.	25.	365	25.00	275.	50%	4.00	2.75			
235.	DNS	80.	75.	150.	70.	NA	45.	NC	DNS	4500	45.00	275.	11%	6.37	6.37			
220.	DNS	75.	75.	DNS	175.	70.	140.	60.	NC	30	700.	35.00	275.	50%	5.81			
220.	DNS	75.	75.	DNS	112.	60.	100.	45.	DNS	1600	35.00	325.	60%	6.18	2.40	6.28	6.47	
175.	DNS	75.	75.	150.	50.	100.	25.	25.	NA	250.	25.00	250.	12%	3.75	2.35	4.00	5.35	
200.	DNS	60.	75.	50.	NA	125.	25.	25.	NA	275.	35.00	200.	35%	4.00	2.75			
205.	DNS	80.	140.	70.	100.	50.	50.	150.	25.	40.00	315.	16%	6.03	2.53	6.03	6.44		
115.	DNS	30.	85.	115.	NC	NC	20.	NA	DNS	75	15.00	75.	67%	4.67	3.07	4.95	5.35	
105.	DNS	30.	110.	75.	50.	25.	100.	30.	DNS	225.	15.00	200.	30%	4.00	2.50	4.50	5.00	
122.	DNS	25.	90.	125.	25.	50.	NA	DNS	50.	15.00	150.	67%	4.00	2.50	4.00	4.00		
130.	DNS	50.	55.	120.	50.	100.	25.	50.	30.	75	15.00	175.	60%	4.00	3.00	4.00	4.00	
150.	DNS	30.	100.	120.	50.	100.	25.	50.	30.	75	15.00	200.	33%	2.90	2.35	3.70	4.05	
125.	DNS	20.	DNS	NC	25.	55.	20.	75.	DNS	70	12.00	150.	53%	4.67	2.30	4.67	5.55	
125.	DNS	85.	20.	DNS	65.	10.	NA	DNS	NA	DNS	100	10.00	90.	78%	6.24	4.46	4.64	
95.	NC	15.	DNS	NC	50.	50.	ONS	95.	NC	45		15.00	140.	61%	4.17	2.35		
165.	165.	30.	65.	82.	50.	100.	NC	100.	25.	300	20.00	185.	50%	5.00	3.00	5.25	5.25	

DNS - DO NOT SUPPLY

NC - NO CHARGE

* - INCLUDES OPENING AND LINER

eter's, North Truro
 Cemeteries, Lenox
 field Cemetery, Pittsfield
 ope Cemetery, No. Attleboro
 nk Cemetery, Seekonk
 atrick's Cemetery, Fall River
 , Oak Grove & Pine Grove, New Bedford
 on Cemetery, Taunton
 on Catholic Cemetery, Taunton
 i Heart, New Bedford
 Dame Cemetery, Fall River
 an Lawn Memorial Park, Peabody
 g Street Cemetery, Essex
 Parish Cemetery, Andover
 i Cemetery, Methuen
 side Cemetery, Saugus
 ale & Pleasant Grove, Manchester
 side Cemetery, Marblehead
 : Grove Cemetery, Danvers
 od Cemetery, Haverhill
 g Grove Cemetery, Andover
 wood Cemetery, North Andover
 :. Jewish Cemeteries - North Shore Area
 Grove Cemetery, Lynn
 od Cemetery, Haverhill
 River Cemetery, Greenfield
 est Park Cemetery, Springfield
 uck Cemetery, West Springfield
 ove Cemetery, Springfield
 i Cemetery Dept., Monson
 dale Cemetery Assoc., Holyoke
 chael's Cemetery, Springfield
 field Cemetery, Springfield
 :
 ew Cemetery, Westford
 seph's Cemetery, East Chelmsford
 Glade Cemetery, Wakefield
 od Cemetery, Winchester
 ook Cemetery, Woburn
 idge Cemetery, Chelmsford
 trick/St.Mary, Lowell
 Hill & Forest Glen Cemeteries, Reading
 burn Cemetery, Cambridge
 wn Cemetery, Everett
 od Cemetery, Everett
 een Cemetery, Marlboro
 Hollow, Concord
 l Cemetery Corp., Lowell
 l Grove Cemetery, Framingham
 Feake Cemetery, Waltham
 leasant Cemetery, Arlington
 f Lexington Cemeteries, Lexington
 Cemetery, Acton

NORFOLK

- 1- Evergreen Cemetery, Stoughton
- 2- Braintree Cemetery, Braintree
- 3- Westwood Cemetery, Westwood
- 4- St. Mary's Cemetery, Canton
- 5- Milton Cemetery, Milton
- 6- Highland Cemetery, Norwood
- 7- Brookdale Cemetery, Dedham
- 8- Canton Corner Cemetery, Canton
- 9- Walnut Hills Cemetery, Brookline
- 10-Mt.Wolaston & Pine Hill Cemeteries, Quincy

PLYMOUTH

- 1- Marshfield Cemeteries, Marshfield
- 2- Cudworth Cemetery, Scituate
- 3- Oak Grove & Vine Hills Cemeteries, Plymouth
- 4- Groveland Cemetery, No. Scituate
- 5- Duxbury Cemetery, Duxbury
- 6- Kingston Evergreen Cemetery, Kingston

SUFFOLK

- 1- Oak Grove Cemetery, Medford
- 2- Winthrop Cemetery, Winthrop
- 3- Newton Cemetery, Newton
- 4- Archdiocese of Boston, Boston
- 5- Forest Hills Cemetery, Jamaica Plain
- 6- Holyhood Cemetery Assoc., West Roxbury
- 7- Gethsemane Cemetery, West Roxbury
- 8- Cedar Grove Cemetery, Dorchester
- 9- Boston Catholic Cemetery Assoc., Roslindale

WORCESTER

- 1- Mt. Zion Cemetery, Webster
- 2- Swedish Cemetery Corp., Worcester
- 3- Grove Cemetery, Holden
- 4- St. Bernards Cemetery, Fitchburgh
- 5- Pine Grove Cemetery, Whitinsville
- 6- Rural Cemetery, Worcester
- 7- Hillside Cemetery, Auburn
- 8- Woodlawn Cemetery, Clinton
- 9- Rural Cemetery, Southboro

RHODE ISLAND

- 1- Swan Point Cemetery- Providence

HISTORIC CEMETERIES QUESTIONNAIRE

Cemetery (Location) _____

Date: _____

Time: _____

Respondent's Residence (Check One)

Boston Resident _____

Boston Area Resident _____

In State Resident _____

Out of State Resident _____ (Specify State) _____

Reason for Visiting Cemetery:

How did you find out about Boston's Historic Cemeteries?

Have you been to any other cemeteries?

Appendix D

Trend Analysis Methodology

The methodology employed for this trend analysis was a relatively simple one. It was based upon two assumption. The first assumption was that a clear percentage of burials during any one year took place in graves which had been purchased during a certain time period. The second assumption, relying upon the first, was that, in order to predict the closing of a cemetery, it would be necessary to trace the movement of second burials, which could be accomplished by ascertaining the correlation between years of grave purchase and year of burial.

In order to test the first assumption, we drew a random sample of 180 second interments for the years 1966 and 1976 (plus a control year of 1969) from Mt. Hope Cemetery. Each burial in this random sample was traced to see in which year the grave itself had been bought. Because of the scattering of the random sample, it was necessary to categorize years of purchase into decades; and then half-decades, or every five years. Thus we used a model of 5 year intervals, form pre-1900 up until 1976 for grave purchases.

By analyzing the sample of 100 second burials each for the years 1966 and 1976, and then determining the percentage of grave purchases that fell into the 5 year intervals, it became apparent that certain patterns were emerging. For example, graves bought 5 years previous to the last date of burial, 1966 and 1976, respectively, represented 10.7% and 8.6% of the total burials. Similarly, graves bought 10 years previous to the date of burial represented 11.6% and 10.6% of the total burials respectively. Therefore, in order to get a mean figure correlating date of burial and percentage/date of purchase, the results for the two years, 1966 and 1976 were average together. This provided an average percent of burial per 5 year interval of grave purchase, which could be applied, generally to any one year at Mt. Hope Cemetery.

Secondly, once the percentage of burials occurring so many years after the date of purchase, or rather the rate at which graves were filling up, had been determined, we further suggested that the completion rate could be applied to the last year of graves sold in order to discover the termination date of the cemetery. To do this, we employed a "mirror projection" a technique in which the order of things is reversed from first to last and last to first. In this case, we justified the use of this technique, based upon the fact that if percentages of burials purchased in very early years declined continuously that in the opposite direction, percentages of burials in the remote future would decline in a similar manner. Therefore, we reversed the order of earliest date and percentage of burials (pre-1900 and 1.25%), projecting them into the future as the final date; conversely, we transposed our final date and percentage of burials (1976 and 8.6%) as the starting date.

Thus, between the years 1977 and 1983, the City still has land left for first burials, and we have assumed that mean number of second burials will remain constant for these years. Starting in 1984, the first year after the termination of all first burials at Mt. Hope, the decline in burials every five years hence was computed. The formula for this number of burials was the percentage of burials in a given 5 year interval times the total graves remaining; then the total number of graves minus the product.

For 1989, then, the formula would be:

$$696 \text{ (Total graves)} \times .086 \text{ (Percent for first 5 years)} = 60$$

$$\text{then } 696 - 60 = 636 \text{ graves}$$

Using this method of progressive decline, we can predict that the cemetery could provide second burials up until the year 2032, with a remainder of 8 graves.

FOOTNOTES

I. Introduction

1. W. Lloyd Warner, "The City of the Dead," in Death and Identity, Robert Fulton, Editor, Bowie, Maryland, Charles Press Publishing, 1976, p. 363.
2. Earl Finkler, The Multiple Use of Cemeteries, Report # 285, Chicago, Planning Advisory Service, November, 1972, p. 3.
3. Warner, "The City of the Dead," p. 364.
4. See Glossary for definition of active and inactive cemeteries.

II. Cemetery Background

1. Massachusetts General Laws, Annotated, Chapter 114, Section 11, "Notes of Decisions, I. Validity of Related Laws."
2. In respect to inactive burial grounds receiving new interments, the Old Granary Burial Ground located on Tremont Street, Boston, was established in 1660, and is the burial place of such famous figures in American History as Paul Revere, John Hancock, and the author of the Mother Goose Tales. Technically, this cemetery is inactive, but should descendants of these people, holding deeds to burial places, wish to be buried there, they are entitled to be so.
3. This law states that the town must only provide a suitable burial space; it does not specifically state that a town must maintain a public burial ground. Thus, the City of Newton, Mass., does not maintain a city cemetery, but does contract out the burial of its indigent to private cemeteries within the town. See Appendix A for Corporation Counsel Opinion on this matter.

4. Massachusetts General Laws, Annotated, Chapter 115, Section 7.
5. Ibid., Section 8.

III. Cemetery Organization

1. Organizational Dynamics, Inc., "Parks and Recreation Department Organizational Analysis," Boston, August, 1974, pp. 175-177.

IV. Cemetery Prices

1. The Veterans Administration will pay a \$250.00 burial allowance for honorably discharged veterans, plus a plot allowance of \$150.00. U.S. Veterans Administration, "Survey of Benefits for Veterans with Military Service Before February, 1955 and their dependents," Revised, Washington, D.C., May, 1975; January, 1977, pp. 6-7.
2. Massachusetts General Laws, Annotated, Chapter 117, Section 17; Chapter 117, Section 18A.

V. Cemetery Utilization

1. All data taken from City of Boston Parks and Recreation Department, Cemetery Division, Burial Records, 1966-1976.
2. Ibid.,
3. According to U.S. government statistics, the death rate has declined from 943.2 per 100,000 in 1965 to 915.1 in 1974. Infant death rates have declined from 24.7 per 100,000 live births in 1950 to 16.7 per 100,000 in 1974. Found in: U.S. Department of Commerce, Bureau of the Census, Statistical Abstracts of the U.S., 1976 Washington, D.C., Government Printing Office, 1976, pp. 60-65.
4. Massachusetts, General Laws, Annotated, Chapter 114, Section 28.
5. Ibid. Note: "Purchaser of a cemetery lot ordinarily does not obtain a fee but acquires only right to burial or an easement to the lot for burial so long as place continues to be used as a cemetery.", McAndrew V. Quirk, (1952) 108 N.E. 2d, 667, 329, Mass 423.
6. For age groups 30-60 years, life expectancy tables suggest that women will outlive men anywhere from 5-7 years on the average for any given age. U.S. Department of Commerce, Bureau of the Census, Statistical Abstracts of the U.S., 1976. p. 61.

VI. Historic Cemeteries

1. See Appendix C for description of Questionnaire on Historical Cemeteries.
2. Finkler, The Multiple Use of Cemeteries, p.2.
3. Ibid.; Jack Ward Thomas and Ronald A. Dixon, "Cemetery Ecology, and Natural History, March 1973, p. 62. In this study of cemeteries in the Metropolitan Boston Region, the authors found the following activities during the 200 hours of study:

<u>Activity</u>	<u>Total Number of People Engaged</u>
Family gravesite visits.....	726
Historic gravesite visits.....	667
Car drivers passing through.....	323
Pleasure walking.....	256
Relaxing or sleeping.....	218
Bicycling.....	104
Dog Walking.....	40
Athletics.....	35

4. Finkler, The Multiple Use of Cemeteries, p. 4.

VII. Cemetery Land Use

1. Boston Redevelopment Authority, "Public Open Space in the City of Boston," Boston, August, 1967. In this study, total open space amounts to 3,460.96 acres.
2. Boston's total public cemetery acreage amounts to 9,212,280 sq. ft. of approximately 211 acres. If added to the total of 3500 acres of open space in Boston (approx.) it thus comprises 5.6% of the total.
3. Earl Finkler, The Multiple Use of Cemeteries, p. 1.
4. Ibid.,
5. The remaining square footage is derived from the remaining sections at Mt. Hope:

Area A - Wisteria Grove	-	1866 graves total
Area B - Olive Grove	-	1578 graves total
Area C - Magnolia Grove	-	50 graves total
Area D - Gardenia Grove	-	416 graves total

Since a single grave is 3' by 10', the formula for square footage would be 30' by 3910 graves = 117,300 sq. ft.

6. See Note 5, Supra.
7. This time period is arrived at by dividing the total number of graves by the average number of new burials, 600 per year. Thus, 3910 divided by 600 = 6.5 years.
8. The amount of prepared land at the St. Thomas More Drive side, estimate of Supervisor of Cemeteries.
9. Grave number is arrived at by dividing square footage 31,242 sq. ft. by 30 sq. ft. = 1,000 graves, approximately.
10. Indigent graves may often hold as many as three people. Because liners are not required by law in indigent graves, more space is available within them.

11. According to unofficial measurements. Since a land survey on this parcel has not been accomplished, an estimate was arrived at by measuring approximate square footage in the area. This figure may be subject to change dependent upon identification of deeds to ownership, land surveyship and engineering requirements.

12. Again, the number of graves is arrived at by dividing the square footage, 357,340 sq. ft. by 30 sq. ft. = 11911.33 graves, or approximately 12,000 graves (rounded off).

13. This 108,000 sq. ft. is an estimated measurement. It does not fully take into account the contours of the land, nor the sq. footage to be used for access roads, etc. All estimates are based upon total acreage.

14. Acreage remaining, according to the Metropolitan District Commission Taking Plan, Chesnut Hill Park, 1976, Francis T. Bergin, Chief Engineer, Boston, 1976.

15. Estimate of Supervisor of Cemeteries.

16. This number is based upon Mt. Hope's average rate of 600 first burials per year.

17. Evergreen Cemetery accommodates approximately 92 first burials per year on the average; thus utilizing the years 1977-1983, inclusive, it would have expended 644 graves. Similarly, Fairview Cemetery at a rate of 90 first graves per year times 7 years would have exhausted 630 graves out of a total of 1,000 would be left with 356 graves. Fairview Cemetery, having used up 630 graves out of approximately 1,000 would be left with 370 graves by the beginning of 1984.

18. This figure is arrived at by adding to total graves remaining in 1984, the projected graves possible - See Note 17, Supra.

By adding on the number of existing graves in 1984, to the projected amount of graves that could be extracted from the various parcels, these figures were deduced:

	<u>Existing Graves - 1984</u>	<u>Projected Graves</u>
Evergreen:	356	1500
	TOTAL: 1856	
Fairview:	370	12000
	TOTAL: 12,370	

19. Chart A - Explanation. The new number of first burials in a 50-50% Division depends upon dividing evenly the overflow from Mt. Hope Cemetery, 600 divided by 2 = 300 first burials and adding them to the current average number of first burials at Evergreen and Fairview Cemeteries, respectively. Thus:

	<u>Current Average First Burials Per Year</u>	+	<u>Overflow from Mt. Hope</u>
Evergreen:	92	+	300
		=Total:	392
Fairview:	90	+	300
		=Total:	390

20. The total number of 780 first burials per year includes all of Mt. Hope's first burials, 600, plus all of Fairview and Evergreen's, 180 for a total of 780 first burials per year. Consequently, the total number of graves, 10,420 is divided by 780 graves, providing a number of 13 years of operation at that level.

21. Chart B - Explanation. In a 100-100% Division, the new number of first burials is achieved by applying the total number of Mt. Hope's first burials to those of Evergreen's; subsequently, the subtotal from Mt. Hope and Evergreen is then added onto Fairview Cemetery's average. Thus:

New Number First Burials			
	<u>Current Average First Burials/Year</u>	+	<u>Overflow from Mt. Hope</u>
Evergreen:	92	+	600
		Total:	692
Fairview:	90	+	600
		+	92 (Evergreen)
		Total:	780 (approx.)

22. The total number of graves, 1856 is divided by the total number of burials, 692. Evergreen Cemetery in this model assumes the overflow from Mt. Hope - 600 per year - plus its own. Fairview Cemetery during this time continues its own 90 first burials per year.

23. The number of new burials is derived from 92 for Evergreen, 90 for Fairview, and 600 from Mt. Hope, for a total of 780. Dividing 780 into 12,100 produces 15.5 years.

24. A division along this line or a similar one could be justified on the basis of relative availability of land in each of the cemeteries, or roughly a ratio of 4 to 1.

25. Chart C - Explanation. 75-25% Division. In this model, the number of first burials is arrived at by adding the fixed percentage from Mt. Hope's overflow of first burials to the average number of first burials at Evergreen and Fairview.

New Number First Burials

<u>Current Average First Burials/Year</u>	+	<u>Overflow from Mt. Hope</u>
Evergreen: 92	+	150 (25% of 600)
		Total: 240
Fairview: 90	+	450 (75% of 600)
		Total: 540

26. The total number of graves, 1856 is divided by the total number of burials, 240, with a quotient of 7.6.

27. The total number of burials, 540, is multiplied by the number of years in Note 20 26 above, 7.6. This product is then subtracted from the total number of graves, for a remainder of 7,996. At this point, around the year 1991, all new burials in city cemeteries, 780 would be diverted to Fairview Cemetery. With a new total of graves, 7,996 and a new number of burials, 780, 10.2 years could be elicited from this cemetery.

28. See Appendix D.

VIII. Cemetery Division Budget

1. City of Boston and County of Suffolk, Massachusetts, Audit Report, Years 1971-1976; 1971, p. 74; 1972, p. 69; 1973-74, p. 104; 1976, p. 99; 1976, p. 113.
2. City of Boston and County of Suffolk, Massachusetts, Appropriations and Tax Orders passed by the City Council, 1971-1976, Boston, 1971, Document 39, p. 39; 1972, Document 46, p. 9; 1973-74, Document 37, p.10; 1975, Docement 50, p. 10; 1976, Document 43, p. 8.
3. City of Boston, Audit Reports, 1971-1976; 1971, p. 73; 1972, p. 69; 1973-74, p. 102; 1975, p. 00; p. 113.

IX. Private Cemeteries

1. Boston charges \$150.00 for a single burial (interment).
2. Holyhood Cemetery Association operates Holyhood Cemetery, Chestnut Hill and St. Joseph's Cemetery, West Roxbury. The Archdiocese of Boston also supports 20 cemeteries throughout the Boston region Archdiocese.
3. See Appendix B, Mass. Cemetery Association Survey of Charges, 1977.
4. Forest Hills Cemetery Association, "Beautiful and Historic Forest Hills Cemetery," pamphlet, Jamaica Plain, MAss.
5. Ibid.,
6. All figures taken from Forest Hills Cemetery Association, Forest Hills Cemetery 1976 Annual Report: 109th Annual Report of the Trustees," Jamaica Plain, MAss., 1976.
7. Forest Hills Cemetery Association, "Beautiful and Historic Forest Hills Cemetery."
8. Forest Hills Cemetery Association, "1976 Annual Report"

X. Recommendations and Alternatives

1. This is a rough estimate based upon the number of first burials, 230 times the price of a single grave, \$200 = \$46,000.
2. U.S. Veterans Administration, "News Letter of the Veterans Administration," Boston, V.A. Information Service, May 25, 1976.
3. Ibid., October 21, 1976.
4. Unofficial estimate of Veterans Administration Public Affairs Officer.
5. Jessica Mitford, The American Way of Death, Greenwich, Connecticut, Fawcett Publications, Inc., 1963, pp. 131-132.
6. Ronald Slusarenko, "Necrotecture," Landscape Architecture, July, 1970, p. 298.
7. Earl Finkler, The Multiple Use of Cemeteries, p. 3.
8. Ibid., pp. 13-15.

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